DOCUMENT RESUME

ED 073 032 SO 005 402

AUTHOR	Fagerstrom, Richard A.; Borad, Bruce
TITLE	Environmental Issues Conflict Unit. Teacher's Guide and Student Book.
INSTITUTION	Diablo Valley Education Project, Orinda, Calif.; New York Friends Group, Inc., New York. Center for War/Peace Studies.
PUB DATE	72
NOTE	156p.
EDRS PRICE	MF-$0.65 HC-$6.58
DESCRIPTORS	Air Pollution Control; Concept Teaching; *Conflict; Conservation Education; *Ecology; *Environmental Education; Inductive Methods; Instructional Materials; Natural Resources; Pollution; Problem Solving; Recycling; Secondary Grades; *Social Studies Units; Teaching Guides; Values; Water Pollution Control
IDENTIFIERS	*Controversial Issues

ABSTRACT

The two separate manuals focus on environmental issues of interest to secondary students. An introductory unit deals with basic ecology and is followed by another unit that explores man's ethic toward the use of environment. Emphasis is upon two major ecological conflicts: one over the use of a wilderness area, and the other over the use of living and non-living resources of the oceans. In the third unit, students examine the right of Walt Disney productions to develop the Mineral King area of the Sequoia National Forest in California into a resort. Questions over use of the oceans are examined in the last unit, with students discussing a variety of issues ranging from oil spills and fishing rights to the division of the wealth in the oceans. Inductive methods encourage students to discover controversy through the examination and discussion of issues and through various suggested activities. Problem solving and concept learning are emphasized. The teaching guide is arranged into four major units containing several lesson plans--each including rationale, objectives, student assignment, and procedures. The lessons in the student workbook are coordinated with the guide. The teacher is provided with a tentative time schedule allowing the study to range from nine weeks to a full semesters work. (SJM)

FILMED FROM BEST AVAILABLE COPY

DEC 6 1972

ED 073032

ENVIRONMENTAL ISSUES CONFLICT UNIT

TEACHER'S GUIDE

Written by:

Richard A. Fagerstrom
Bruce Borad

SΦ005 402

The materials herein are part of the work of the Diablo Valley Education Project in Contra Costa County, California, an affiliate of the Center for War/Peace Studies. They are available for use in the Mt. Diablo Unified School District, which co-operated in their development. Copies for use elsewhere may be obtained for limited testing purposes when permission for such use is granted by the DVEP. Such requests should be forwarded to:

Diablo Valley Education Project
50 Vashell Way
Orinda, California 94563

© 1972 Center for War/Peace Studies of the New York Friends Group, Inc.
218 East Eighteenth Street
New York, N. Y. 10003

ED 073032

PERMISSION TO REPRODUCE THIS COPY RIGHTED MATERIAL HAS BEEN GRANTED BY

Robert E. Freeman

TO ERIC AND ORGANIZATIONS OPERATING UNDER AGREEMENTS WITH THE U.S. OFFICE OF EDUCATION. FURTHER REPRODUCTION OUTSIDE THE ERIC SYSTEM REQUIRES PERMISSION OF THE COPYRIGHT OWNER

TEACHER'S GUIDE

DIABLO VALLEY EDUCATION PROJECT

ENVIRONMENTAL ISSUES
CONFLICT UNIT

Written By

Richard A. Fagerstrom
Bruce Borad

TABLE OF CONTENTS

Page

Introduction. 1

Time Schedule 4

Concept Development 7

Unit A: Interdependence of Man and His Environment 10

  To the Teacher 10
  Lesson 1: Basic Concepts and Vocabulary of Ecology . . 12
  Lesson 2: Small Group Assignment - Ecological Problems. 15
  Lesson 3: Man's Modifications of the Environment. . . 17
  Lesson 4: Man's Inadequate Assumptions About His Environment 19

Readings for Unit A:

The Challenge of Man's Future 25
The Tragedy of the Commons. 30
Production Process Flow Chart 40

Unit B: In Conflict 43

  Lesson 1: A Conflict. 43
  Lesson 2: The American Frontier 45
  Lesson 3: In Conflict 48
  Lesson 4: Toward An Ethic 50
  Lesson 5: Another Ethic 51
  Lesson 6: Another Look. 53
  Lesson 7: Mineral King. 55

Readings for Unit B:

A Comparison of Ethics. 58
Mineral King. 63
Disneynews. 74

Unit C: Adjudication As A Method of Conflict Resolution. . 78

  To the Teacher 78
  Lesson 1: Game A - The Decision 80
  Lesson 2: Game B - The Trial. 82
  Supplemental Enrichment Material 89

Unit D: The Creation of International Law. 96

  Lesson 1: Student Reports 97
  Lesson 2: Geographic Regional Conferences 97
  Lesson 3: World Ocean Conference. 98

Appendix. 102

  Assignment: Oceans. 103
  Environmental Conflicts. 104
  Sources. 105
  Roots of Conservation. 107
  Field Trip: Mineral King Wilderness Area. 108

Bibliography. 110

DIABLO VALLEY EDUCATION PROJECT

Environmental Issues
Conflict Unit

Introduction

As conflict is apparent in most aspects of American life today, there are any number of areas the social studies teacher could employ to study the concept. It is the intention of this unit to place in focus two subjects of current interest to students: an ecological conflict over the use of a wilderness area, and the conflict over the use of living and non-living resources of the oceans. Prior to the discussion of the major issues and the presentation of the conflicts, the unit deals with basic ecology (Unit A) and man's ethic toward the use of environment (Unit B).

One major conflict to be explored by the students is the conflict over the use of the Mineral King area of the Sequoia National Forest in California (Unit C). Walt Disney Productions has been granted a permit to develop a major all-year resort in the area. The Sierra Club has challenged this development as being inconsistent with the intended use of the area as one to conserve and maintain the natural beauty of the landscape. The case has progressed to the Supreme Court, which has ruled that the Sierra Club does not have "standing" to sue for a permanent injunction against the development. Walt Disney Productions has submitted new plans which are substantially modified. They have cut the size to the point that much fewer people could use the area than were originally planned for. The issue of Mineral King should allow the students to deal with a variety of issues related to the conflict and should acquaint them with the American Court system and its role in the resolution of conflict. In times when modern youth often seek to resolve conflict through violence or avoidance, the introduction of the adjudication process may offer them a plausible alternative.

The second major issue (Unit D) is intended to raise questions over the conflicts that have arisen and will arise over the use of the oceans. Most students are familiar with oil spills and conflicts over fishing rights. The unit will bring forth other issues in regard to the ocean, such as use of the sea beds, ocean farming, search for mineral wealth and the division of the wealth in the oceans.

It is our intention to provide the students with a variety of experiences and situations; foremost is the small group seminar. It is advantageous to break a class into groups of from 10 to 15 students for discussions. Often the student who is intimidated by the large group finds that he can express himself in the small group setting. It would be helpful if the teachers have had experience in discussion skills with small groups. Regardless of the topic, students should be placed continually in situations that allow for skill development. In particular for these topics, discussion skills, group cooperation, research skills, and analytical skills in the assessment of the value of simulation games are essential to the learning process.

It is also essential that the students discover controversy rather than being told about it; therefore, the inductive process is employed as the manner of teaching the unit. The teacher using the unit should be careful not to tell the students, but should provide opportunities for them to find out.

During the length of time taken to present the total unit, the students should be reminded that there are a variety of ways issues may be explored and resolved. It is our intent only to deal with the areas of mediation and the adjudication process, and to explore the uses of mediation and adjudication on the international level to resolve world ecological problems derived from conflicts over the oceans.

The teacher is provided with a time schedule; however, it is only a very tentative guide. If one pushed, the study could be completed in nine weeks, but it could be expanded easily to a full semester's work.

Time Schedule

The following is a suggested time schedule; it is designed to keep you moving at a fairly rapid rate. The Unit could be expanded to last for a semester or could be used as a part of another unit of study. Flexibility should be kept in mind; expansion or contraction should be at the discretion of the teacher.

Unit A

Lesson 1: Basic Concepts and Vocabulary of Ecology

Filmstrips/discussion	2-3 periods
Seminar	1 period
Assignment: Homework	---
Total	3-4 periods

Lesson 2: Small Group Assignment - Ecological Problems

Assignment/Explanation/Groups	1 period
Research	2-4 periods
Presentations	2 periods
Total	5-7 periods

Lesson 3: Man's Modifications of the Environment

Reading	½-1 period
Seminar	1 period
Generalizations/Discussion	1 period
Total	2½-3 periods

Lesson 4: Man's Inadequate Assumptions About His Environment

Reading/Explanation	1-2 periods
Discussion	1-2 periods
Reading #2/Analysis	1 period
Seminar	1 period
Discussion/Flow Chart	1 period
Total	5-7 periods

Unit B

Lesson 1: A Conflict

Films	3 periods
Seminar	1-2 periods
Total	4-5 periods

Lesson 2: The American Frontier

Film		1 period
Seminar		1 period
Seminar/Follow-up		1 period
Long Term Assignment: The Oceans		0-½ periods
	Total	3-3½ periods

Lesson 3: In Conflict

Assignment/Explanation/Organization		1 period
Work Time		3-5 periods
Presentations		2-3 periods
	Total	6-9 periods

Lesson 4: Toward An Ethic

Reading		1 period
Seminar		1-2 periods
Assignment		0-1 period
Discussion (Reich, Roszak)		0-1 period
	Total	2-5 periods

Lesson 5: Another Ethic

Assignment/Explanation	Total	½ period

Lesson 6: Another Look

Game		1 period
Critique/Discussion		1-2 periods
	Total	2-3 periods

Lesson 7: Mineral King

Reading		1-2 periods
Assignment		1 period
Discussion		1 period
	Total	3-4 periods

Presentation of Lesson 5

Research	Total	2 periods

Unit C

Lesson 1: Game A, Public Hearing and Administrative Decision

Introduce the game		½ period
Prepare positions		1½ periods
Public hearing		1-3 periods
Board decision		10 minutes
Critique		1-2 periods
	Total	4-7 periods

Lesson 2: Game B, The Trial

Introductory readings on substantive law and class discussion		1-2 periods
Prepare complaints		1 period
Prepare answers		1 period
Jury selection		1 period
Trial		1-3 periods
Deliberation and verdict		1 period
Critique		1-2 periods
	Total	7-11 periods

Unit D

Lesson 1: Student Reports		
Reports	Total	2-3 periods
Lesson 2: Regional Conferences		
Regional Conferences and preparation of draft treaties	Total	2-3 periods
Lesson 3: General World Conference		
Conference	Total	2-4 periods
Debriefing of Unit D	Total	1-2 periods

Note: This time schedule is very flexible, depending on the amount of time to be spent in research. Because few students have dealt with the topic of the oceans and possible international law dealing with the oceans, the teacher should allow as much time as necessary.

ENVIRONMENTAL ISSUES

Concept Development

The authors feel that learning skills are a very important part of education. The idea of and working with concepts are part of learning; students should learn that concepts convey a depth of meaning far beyond a dictionary definition and also have a great carry-over value. Concepts that should be covered in each lesson are outlined below. Again flexibility is the prerogative of the classroom teacher, and how much time is spent on the concepts below will vary; however, time should be spent to determine how much the students know about each and how they apply to the unit specifically. Some of the concepts below are not specifically discussed in the unit, but could be used to enhance, broaden and expand the unit.

Unit A

Lesson 1: Basic Concepts and Vocabulary of Ecology

- energy
- ecosystem
- primary producer
- secondary producer
- climax producer
- consumer
- adaptability
- camouflage
- marsh
- swamp
- herbivore
- omnivore
- carnivore
- food chain
- food web
- decomposer
- organic life
- inorganic
- pyramid of life
- biome
- climax vegetation
- generalization
- hypothesis

Lesson 2: Small Group Assignment - Ecological Problems

- data
- evaluation
- method
- conflict
- interest
- vested interest
- levels of government
- bias
- prejudice

Lesson 3: Man's Modifications of the Environment

- population
- birth rate
- death rate
- crowding
- expansion
- contraction

- technology
- innovation
- resources
- quality of life
- interrelationships
- utilization
- generalization
- learning
- agriculture
- hunting
- arts
- leisure

Lesson 4: Man's Inadequate Assumptions About His Environment

- commons
- private
- utilitary
- aesthetics
- exploitation
- resources
- space
- food
- recreation
- closed system
- open system
- rights/privileges
- real property
- legal
- administrative decision
- statute
- affluence
- G.N.P.
- pollution
- flow chart
- generalization

Unit B

Lesson 1: A Conflict

- values
- ethics
- attitudes
- good
- bad
- modification/alter
- groups in conflict
- minority
- majority
- conservation
- development
- preservationist
- utilitarians

Lesson 2: The American Frontier

- frontier
- westward movement
- explorer
- exploiter
- use/need
- recreation
- aesthetic value
- "new frontier"
- genocide/Indians
- wastefulness
- needs/wants
- satisfaction
- homestead

Lesson 3: In Conflict

All concepts in Lesson 2 above, plus:

- local
- state
- international
- real estate
- agencies
- national
- court system

Lesson 4: Toward An Ethic

- wild
- wilderness
- Puritan Ethic
- occidental
- oriental
- civilization
- destructiveness
- exploitation

Lesson 5: Another Ethic

conservation
preservation
wildlife
progress
lobby
reserve
park
land management
congressional action
interest group

Lesson 6: Another Look

interest
vested interest
spaceship earth
pressure group
role

Lesson 7: Mineral King

conflict of issues
negative
positive
public
private
recreation
leisure
develop
natural
legal
injunction
court system

Unit C

adjudication
conflict resolution
third party
trial/courts
conquest
avoidance
compromise
litigation
aesthetics
conservation
values
development
pressure group
wild/wilderness
vested interest
condemnation
injunction
nuisance
plaintiff
defendant
preemptory challenge
enforcement
administrative power
executive power
legislative power
preservation
exploitation

Unit D

public interest
enforcement
externalities
regulation
abatement
regionalism
third world
radification
negotiation
reconciliation
super power
developed
under developed

ENVIRONMENTAL ISSUES

UNIT A

Interdependence of Man and His Environment

To the Teacher: Before you begin Lesson 1, it would be advisable to give your students a brief pre-test to determine how much time you will have to spend dealing with the basic concepts and vocabulary. The filmstrips themselves do a good job. If you include concepts related to the last three units (B, C, and D), you will probably find that their knowledge of the concepts related to conflict and conflict resolution are quite limited; this will also likely be true of the American judicial system and international means of resolving issues.

If you cannot obtain the film strips, you should not be hampered in presenting the lesson. The students themselves can do research into some of the terms which follow the introduction to each filmstrip. It may also be possible to have a biology teacher at your school come into your class to discuss these terms with the students.

Lesson 2 is presented as a skill exercise as well as an introduction into a variety of current ecological problems. The students are asked to do research and follow the outline, points 1 - 6 (Student Readings). They should be allowed to work in groups of 3 to 4 students for this assignment. If your library permits, this lesson may allow you to aid them in research skills. The students should be encouraged to use the Reader's Guide to Periodical Literature;

you may have to spend some time in explanation of the Guide. You may also have to help them take notes on magazine articles that they find. Once the students have completed the assignment, they will evaluate how well the other groups did the assignment. Point 6 of the assignment could produce some very imaginative work; the visual display could include a mural, collage, mobile, etc.

In Lesson 3 the students are asked to complete a reading and discuss the reading in a seminar. The reading itself is not difficult, and in a few pages describes man and his relation to the environment over the centuries. The students are provided with some ideas prior to the reading; they should be reminded that these will help them understand the reading selection.

Lesson 4 will be the most difficult in the first unit. The difficulty lies in the fact that the reading is quite above the reading level of the average high school student. This should not deter you; you may even push the fact that the students will have a hard time of it. The reading might be looked upon as a challenge rather than as a drag. If the students are not helped and encouraged at this point, it may kill their desire to push on. If you feel that this is the case, you might use the suggestions given, and take the main ideas from the reading and present them to your students (see Lesson 4 below).

LESSON 1: BASIC CONCEPTS AND VOCABULARY OF ECOLOGY

Materials:

Filmstrips
1. Introduction to Ecology
2. Changes in Eco-Systems
(Ecology and Man Series - Set I, McGraw-Hill Text Films, New York, N.Y., 10036)

Rationale:

This first lesson is intended to give the students a basic understanding of ecological interrelationships to be found in the environment. Ecology definition: the study of relationships among plants and their associated animals, and between them and their environments.

Filmstrip #1: Introduction to Ecology. This filmstrip will explore:

a. energy as the source that runs all ecosystems.
b. the transformation and flow of energy.
c. primary, secondary and climax producers and consumers.
d. limiting factors of an ecosystem.
e. ecosystems in constant change.
f. man-made changes in ecosystems.

Filmstrip #2: Changes in Ecosystems. This filmstrip will explore:

a. dynamic life in ecosystems.
b. geological changes that affect ecosystems.
c. succession of life within an ecosystem.
d. the interlocking nature of changes, why species dwindle or flourish.
e. the changes man has made in ecosystems, the ignorance of man toward the environment.

Content Objectives:

The filmstrips are self-narrative; however, one student may read each frame to the class. Filmstrip #1 has 51 frames, and Filmstrip #2 has 45 frames; they may be shown one after the other or at different times, at the discretion of the teacher.

From these filmstrips the students should be able to do the following in a seminar:

1. Define and give an example of each of the following from Filmstrip #1:
    a. consumer
    b. producer
    c. food chain
    d. food web
    e. decomposers
    f. organic life
    g. inorganic materials and energy
    h. ecosystem (changes in)
    i. pyramid of life
    j. biome
2. Define and give examples of each of the following from Filmstrip #2:
    a. living (dynamic) organisms
    b. geological changes
    c. sandbar, salt marsh, fresh water pond
    d. a man-made change in an ecosystem
    e. climax vegetation

Assignment:

Students should construct a four-element food chain and a twelve-element food web, and show how the food web would be disrupted by the subtraction of one or more animals or plants. The food chain and food web should be constructed using the following list of elements:

clam
organic debris
marsh plants
mosquito
hawk
snake
frog
butterfly
dragonfly
trout
wild berries
man
heron
plankton
fox
shrimp
red-wing blackbird
cricket
field grass
salmon
herring
bear
gopher
rabbit

The four-element food chain will be easy for the students to construct; for example: butterfly/dragonfly/frog/snake; or shrimp/herring/salmon/bear. The twelve-element food web will be difficult. You might make some suggestions to the students:

1. The web is complicated.
2. The upward end of the web may be occupied by an animal that ends the chain, until its death.
3. The consumers generally become larger and fewer.
4. Consumption may change by season.
5. Some consumers consume a number of primary producers.

The second part of the assignment introduces a problem of analysis for the student, as the subtraction of an element can cause tremors throughout the chain.

Procedures:

The assignment may be accomplished in a number of ways:

a. Assigned to students individually as homework.
b. Discussed in a seminar.
c. It might be more fun for the students if they constructed their food chain and food web in groups in class and made oral presentations which other students would be allowed to criticize.

We strongly suggest course (c).

A seminar group of fifteen students provides an opportunity to discover and correct students' knowledge of the information. The seminar also provides the student with the opportunity to participate in an interchange of ideas with his fellow students.

The seminar should end with the student making some generalizations about the environment. For example:

1. Living organisms are biologically interdependent.
2. Variation in any part of a food chain will affect all elements in the food chain.

The students should also formulate hypotheses as to:

1. man's place in the environment; and
2. changes in ecosystems.

For example:

1. The elimination of any element of a food chain will have immediate effects upon other elements of the chain.
2. Results of environmental modifications by man can be predicted.

LESSON 2: SMALL GROUP ASSIGNMENT - ECOLOGICAL PROBLEMS

Materials:

Group folder, resource
data on ecological problems
(to be prepared by students)

Rationale:

The purpose of this lesson is to introduce a wide variety of current ecological problems, and to develop the students' ability to cooperate in a learning team to:

1. gather and organize data;
2. present data to the class in an oral or visual (collage, mobile, posters) manner;
3. critically evaluate the particular problem;
4. assess the range and depth of the problem; and
5. critically evaluate the content and method of the student research team's presentation.

The students should understand their roles as evaluators and critics. The evaluation should be centered around the five points above, and the goal of the evaluation should be the development of:

a. the ability to assess critically others' work;
b. the ability to use critical evaluation to reconstruct and better a report; and
c. the ability to accept and act upon legitimate criticism.

Procedures:

Students are presented with a list of ecological problem areas. The list can be prepared beforehand or may be generated in a class discussion. Students should be divided into groups (3-5 members) and allowed to select a topic that they are interested in. They may have to draw lots to select topics.

The following are suggested general topics, but it is strongly recommended that the teacher include local issues, national issues, and international issues to establish the necessary background for Unit C.

General Topics:

1. Air pollution
2. Water Pollution
3. Thermo Pollution
4. Noise Pollution
5. Population
6. Food Production
7. Open Space
8. Resource Consumption
9. Solid Waste Disposal
10. Extinction of Species
11. Pesticides
12. Recycling
13. Other. Students should be encouraged to state ecological problems other than those listed.

For the above topics students should complete written research in which they:

1. Define the problem.
2. State the causes of the problem.
3. State the current effects of the problem.
4. State the predicted effects of the problem.
5. Rate the potential ability of man to resolve the problem.
6. Prepare an oral report or visual display to present to the class.

In a critique of this assignment the teacher should introduce the concept of conflicting attitudes held by people over the environment. An example would be the desire for clean air and the necessity of the automobile in the American society. Students then may be asked to define the conflicts in all of the topics.

Research time should be determined by resources available and the skills and aptitudes of the students. Two to three hours library research and organization should be sufficient, provided they will read information on their own time.

Reports are to be presented to the whole class by one or more of the students in the research team. It is suggested that a roundtable informal presentation with an exchange between other students and the teacher would avoid the boredom of a single student to ask questions and various members of the research team should field the questions.

At the conclusion of each report the class should assess the depth of the problem as it exists at the local, state, national or international level.

It may be useful to compare a variety of sources to assess the degree to which the problem exists on any level.

1. Who says there is a problem and how are they answered?
2. How has the problem manifested itself---is it a localized problem or larger in scope?
3. Is a disaster imminent?
4. What people or agencies can be expected to react in the case of a particular problem?
5. What needs of what groups are in conflict in regard to the problem?
   Examples:
   a. The desire of those who wish to water-ski and those who want clear water.
   b. Those who demand that world population be reduced and those who have religious tenets that disallow birth control.
   c. Those who have a desire to develop resources and those who wish to preserve resources.
   d. Those who wish to show elegance of wardrobe in terms of furs and those who wish to preserve endangered species.
   e. Those who wish the convenience of electric appliances and those who desire to expand our power potential. Note: This may strike close to home. You might ask the students how many appliances they have in their home, how many they could or be willing to do without, and what might be problems for the nation if everyone chose not to use electrical appliances. How would our economy be affected by such a choice?

LESSON 3: MAN'S MODIFICATIONS OF THE ENVIRONMENT

Materials:

Reading: Brown, Harrison. The Challenge of Man's Future, pp. 14-22.

Rationale:

The following reading deals with the relationship between the size of the human population, technology and resources.

Procedures:

The students should be given time to read the nine pages. It may be advisable to suggest to the students that the reading reflects a mini-history of the world, or even the area in which they reside.

As they complete the reading the students should write questions dealing with the reading that they feel would be appropriate to discuss in class.

The seminar should allow the students an opportunity to bring out their points in regard to the reading, and should also cover the following points:

1. Early man and the extent of his population.
2. Factors which allow for the increase or decrease in human population.
3. The concept of quality of life---in relation to numbers, technology and resources.
4. Interdependence created by rising population and technology and shrinking resources.

At the end of the seminar students should be able to generate a number of generalizations that will show that they have an understanding of the variables of population, technology and resources and their interrelationships. For example:

1. Technology allows the population to increase as the utilization of resources becomes more widespread.
2. As a civilization modernizes it becomes necessary to specialize, and in doing so people become more efficient in their ability to use resources.

In regard to the above selection dealing with generalizations, the authors feel that the ability to form generalizations is essential to a sound social science education. Students should be introduced to the concept of the generalization if they have not been at this point of their education. If you have not dealt with generalizations in your classroom, see Womack, James G. Discovering the Structure of the Social Sciences. New York: Benziger Brothers, 1966.

LESSON 4: MAN'S INADEQUATE ASSUMPTIONS ABOUT HIS ENVIRONMENT

Materials:

Reading #1: Hardin, Garrett. The Tragedy of the Commons, from De Bell, Garrett, ed. The Environmental Handbook, pp. 31-49.
Reading #2: The Environmental Law Handbook. Chart: Production Process Flow Chart, pp. 12-17.

Rationale (Reading #1):

The reading presents a study of the political, economic and legal assumptions that are held by parties to environmental conflicts. The reading is divided into three sections:

1. Part I deals with man's attitude that technology can solve his problems.
2. Part II covers public property that is open to exploitation by all.
3. Part III concerns private property over which the owner has complete control and rights of exploitation.

Procedure (Reading #1):

Students will need assistence in the reading, as it is quite difficult. Time should be ample---possibly one or two class hours. The reading should be broken into three parts and each should be discussed in relation to the above rationale.

It is suggested that the teacher explain to the students that the reading consists of the three parts above and that they (the students) should examine the reading in terms of the political, economic and legal assumptions made by various parties involved with the "commons". The teacher may choose to go over each assumption below with the students prior to their reading of the selection.

If you feel that the approach below is too difficult for your class to pursue, you may go over the selection dealing with the content under each major heading.

The difficulty of the reading may also be lessened if you suggest a competition of understanding; here you could divide the class into analysis teams which compete with each other in bringing out the points in each part of the reading. Competition in regard to the reading may help bring home the point that the reading is dealing with competition.

Note: A 16mm film, "The Tragedy of the Commons"*, has been made which deals with the concepts developed by Dr. Hardin in the article above. It is an excellent film which has breaks in it which allow the teacher to discuss points with the students. The film is divided into four sections (breaks) that do not coincide with the author's outline of the reading. The teacher's guide which accompanies the film is full of suggestions for the teacher.

For the assumption about technology, these points should be discussed:

1. Science and technology cannot necessarily solve all of man's problems.
2. Scientific investigation is limited to that which can be weighed and tested.
3. Aesthetics are not subject to scientific investigation.
4. How the maximum good per person may be obtained without endangering the environment

For the assumption about the "commons":

1. The exploitation of the "commons".
2. The unlimited extent of the "commons".

---

* See BIBLIOGRAPHY for rental information.

3. The variety of "commons". *Examples*:
    a. resources
    b. space
    c. food
    d. recreation

Note: Students should demonstrate that they understand the concept "commons" as it is used in the reading. For simplification the commons may be defined as that territory *not held privately* by any person or group---that territory open to use by the members of a society.

For the assumption about private property:

1. Private property is the sum of all rights and privileges to objects and things.
2. There is real and personal property.
3. Law establishes what may be done with private property and prohibits others from doing things with property. *Examples*:
    a. The law allows one to build on his property.
    b. The law prohibits trespass.
4. The differences between administrative decisions (rule by man) and statute (rule by law).
5. The concept of *temperance* in man's behavior.

Rationale (Reading #2):

The reading and flow charts analyze the additional assumption that the health and well-being of a nation can be measured by the total usable goods and services that it produces. The reading examines the manner in which goods are produced in the manufacturing process, and how man's march to affluence has not been accompanied by a concern for his effluence. The reading introduces how we measure success in terms of Gross National Product and explains how this is an implausible way to measure success in a closed economy with limited resources. G.N.P. as an indicator fails to account for negative goods and services, such as air pollution released while producing more positive goods and services.

The production process flow chart shows graphically the bringing together the products of photosynthesis and materials, their use and the residuals of that use.

It will do well to discuss with the students the cost of eliminating the undesirable by-products of the production process and the unwillingness to pay the price to control these by-products by municipalities, industries and consumers.

Skill Objective (Reading #2):

Students should be guided in their analysis of the flow chart. They should, however, be allowed to draw their own conclusions about the chart as long as the conclusions fit the data.

Procedure (Reading #2):

Students will read the selections and analyze the flow chart prior to a small group discussion.

1. For many classes parts of the reading are difficult; this may require that the selection be read to the students.
2. If students are unfamiliar with flow charts, time should be spent on a description of the use of a flow chart and how movement is represented opposed to a static chart that shows no movement (dynamic vs. static flow chart).

In small groups:

1. The following points should be analyzed in a seminar:
    a. The earth as a closed system without the capability of gaining more of necessary resources or the capability of getting rid of unwanted residual products. $E = mc^2$ should be discussed in light of the laws of thermo-dynamics and the production and destruction of energy.
    b. Economic theories are often predicated on the earth as an open system with unlimited resources and depositories for waste.
    c. These economic understandings transcend nation/state ideologies.
    d. Economic values do not account for aesthetic and human values.
    e. On a purely economic level, pollution of the environment is not as costly or as serious as on an aesthetic or social level.

2. The students should be able to explain orally the flow chart.
3. The following should be discussed from the flow chart:
    a. difference between residual and dissipated pollutants.
    b. the effect of residual and dissipated pollutants on the quality of life.
4. Students should attempt to modify the flow chart to allow for a more satisfactory quality of life.
5. Students will construct a production process flow chart for a particular industry in their community.
6. Students should identify possible conflicts between need for energy to obtain food, heat, shelter, etc., and pollution of environment.

Readings for Unit A

For reproduction purposes two readings have been omitted. They are:

Brown, Harrison. The Challenge of Man's Future, pp. 14-22. (Lesson 3)

Hardin, Garrett. The Tragedy of the Commons, from De Bell, Garrett, ed. The Environmental Handbook, pp.31-49. (This is Lesson 4, reading #1)

Ecological Quality High Cost

The price of environmental quality is very high. *Life* magazine reports that it would cost the United States $40 billion annually "just to hold the line against further pollution: many times that much would be needed initially to clean up damage from the past".

Even if consumers and taxpayers decide to foot the bill, there will be formidable obstacles. A number of assumptions on the way the economy works, once considered eminently sound, will have to be discarded. Furthermore, economic institutions now contain a built-in impetus to environmental deterioration. But, most important, a decent environment can be achieved only with the sacrifice of many of the symbols of affluence.

It is interesting to note that competing economic systems also do not appear to be successful in coping with the demands of environmental quality. The Soviet Union has been experiencing the same difficulties. An article in *Pravda* cited widespread pollution of many Russian and Siberian rivers. Soviet authorities recently announced a crackdown on industries that have been polluting the Volga. Lake Baikal, one of the natural wonders of the world, is well on the way to becoming a dead sea, like Lake Erie. The Japanese, a people long noted for their ability to live in harmony with nature, have experienced some of the worst smog outbreaks. Recently, an enterprising Japanese manufacturer began marketing a portable, clean generator that can provide temporary relief for irritated lungs.

Inadequate Assumptions

The earth is, for all practical purposes, a closed system. That is, "the outputs of all parts of the system are linked to the inputs of other parts. There are no inputs from outside and no outputs to the outside". There can be no significant inputs or outputs from space. The only inputs from outside is in the form of energy, primarily sunlight.

The implications of the closed earth concept are startling: "In an economy which is closed (no imports or exports) and where there is no net accumulation of stocks (plant, equipment, inventories, consumer durables, or residential buildings), the amount of residuals which is inserted into the natural environment must be approximately equal to the weight of basic fuels, foods, and raw materials entering the processing and production system, plus oxygen taken from the atmosphere. This result, while obvious upon reflection, leads to the rather striking corollary that residuals disposal--in terms of sheer tonnage--is an even larger operation than basic materials production."

The materials flow diagram presented below presents a schematic flow of materials through the production process. The solid arrows pointing away from the boxes represent unwanted residuals (pollution).

At present, economic success is measured by the volume of materials that flow through the production process--the amount of "throughput". This measure is implausible in a closed economy with limited sources of raw materials and a finite reservoir into which residuals can be dumped. Because the system is closed, increased production and consumption should be looked on with disfavor. The measure of success should be "the nature, extent, quality, and complexity of the total capital stock, including in this the state of the human bodies and minds included in the system...Any technological change which results in the maintenance of a given total stock with a lessened throughput (that is, less production and consumption) is clearly a gain."

Gross national product, the economic indicator most often used as a measure of growth, has come under frequent attack by economists who recognize the folly of unlimited growth. That indicator fails to account for negative goods and services, such as air pollution, released while producing more positive goods and services. The current outlook is for an ever-growing economy with more and more throughput. (The myth of perpetual growth)

"Free goods" have been defined as commodities whose supply equals or exceeds the demands of all members of the public, or those that "cannot readily be packaged for individual ownership or exchange". Until recently, fresh air, open space, urban amenities, and pure water were regarded as free goods. Now that these elements are becoming critically scarce in many areas, large expenditures in time and money are required to maintain the stock of these commodities.

Some suggest that features of the natural environment that are in relatively short supply should be treated as "newer resource elements". They point to a growing trend toward production of services, rather than commodities. Today, a productive plant consists of a network of training, research, communications, water and air use, and other processes. "Productivity changes are increasingly influenced by the efficiency of the urban 'plant' or urban environment." Newer environmental resources should be subject to the same considerations as the more traditional resources, such as timber, coal, and metals. They are part of the national heritage and should not be used by one group or generation to the exclusion of others. We must be willing to invest in their development. They should be used for multiple purposes. And they should be managed in accordance with the basic laws of ecology and the other natural sciences.

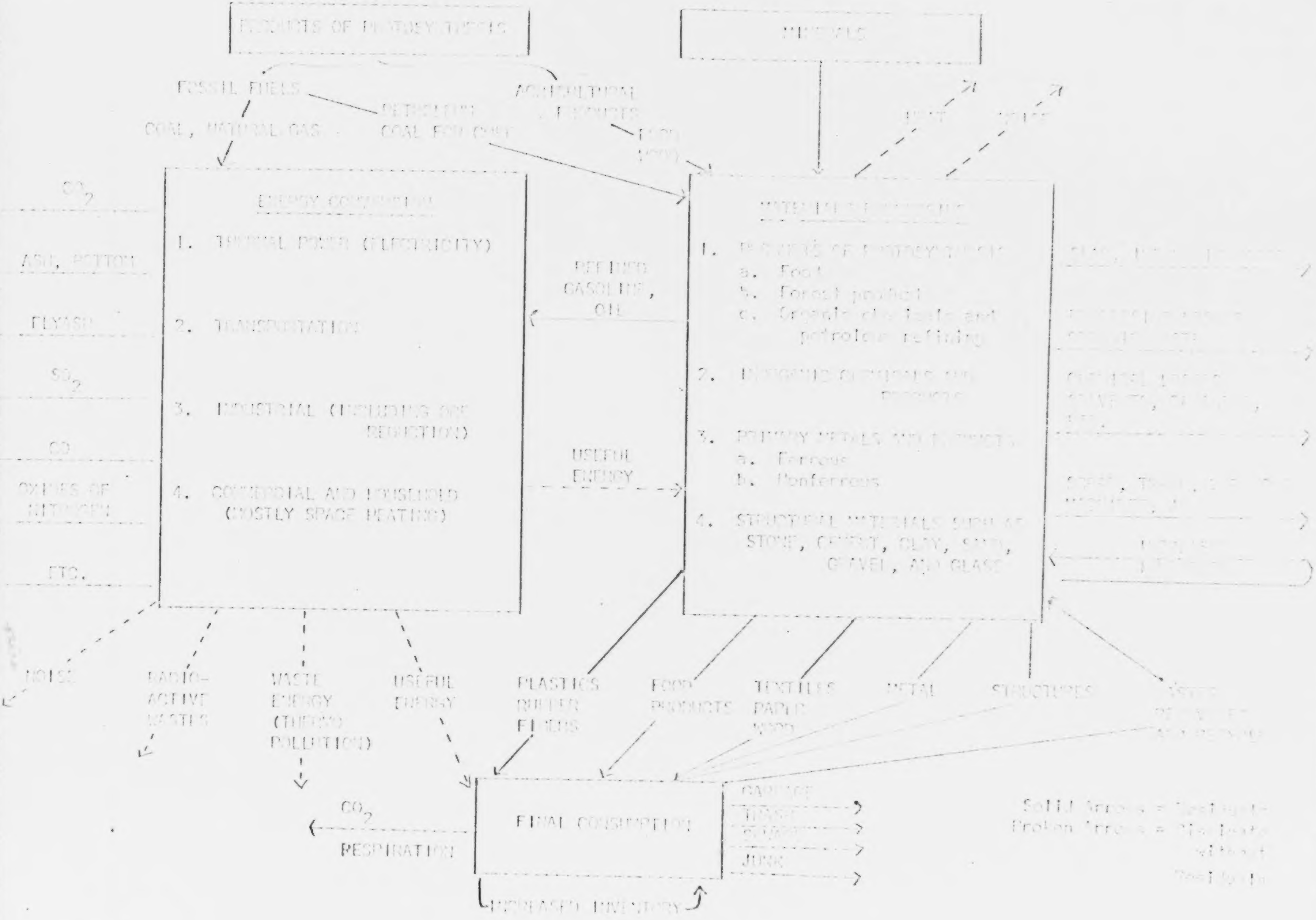
Neither municipalities nor industries generally find it worthwhile to engage in significant expenditures for pollution control. Industry, which uses most of its water for cooling purposes, requires low quality water. Water has to be specially treated for drinking and specialized industrial uses, and it costs little more to treat heavily polluted water. Thus, neither industry nor municipal water companies gain much directly if rivers are cleaned up, and they are therefore reluctant to spend money for that purpose.

Nevertheless, using dirty water involves indirect costs. Loss of recreation, fishing, and esthetic values are no less real than the cost of making water potable or safe for machinery. Most economists have ignored the social costs of business enterprise, primarily because they are inextricably bound up with societal values, which are subject to disagreement. But as has been pointed out, to ignore social costs is equivalent to attributing a value of zero to them, which is as arbitrary as assigning them any positive or negative number.

Some economists are trying to resolve the problem of quantifying social costs to the value of recreational waters and the costs of air pollution but there is really little definite agreement as to the proper value of each and there is still no dependable method of estimating the social costs accurately for the community.

Adapted from *Environmental Law Handbook*, pp. 12-17.

PRODUCTION PROCESS FLOW CHART



ENVIRONMENTAL ISSUES

UNIT B

In Conflict

LESSON 1: A CONFLICT

Materials:

Films: Glen Canyon, The Redwoods, The Two Yosemites (Sierra Club); Pave It and Paint It Green (UC Extension Media Center). Sierra Club films are produced by the Sierra Club and are distributed through Association Films, Inc., 25358 Cypress Ave., Hayward, California 94544. They are free or the Sierra Club asks a $5.00 gratuity if the sponsoring group can pay.

Rationale:

This series of films provides the students with a basic portrait of a variety of attitudes that people have held and currently hold toward the environment. The stark natural beauty of Glen Canyon prior to the creation of Lake Powell, the comparison of Hetch Hetchy Valley to Yosemite Valley (via both The Two Yosemites and Pave It and Paint It Green) should lead to a discussion of values and ethics that we as a nation hold toward our environment.

Procedures:

The films should be shown as a unit, as they tie together quite well. All of these films are frank, colorful and usually hold the interest of the student. After the films have been seen by the students, the films will be discussed in seminar groups of fifteen students.

Prior to the seminar and in preparation for it, the students might be asked to consider the following questions:

1. Identify the need man is trying to meet by altering the natural environment.
2. List alternative means by which the need could have been met.
3. What are the costs of the various means that could be used?
4. What are the conflicting values in the alternative means?
5. What specific individuals or groups are rewarded or punished by engaging the change to the environment (e.g. logging, damming, etc.)

In the seminar the students will:

1. List the groups who present a particular set of values.
2. Define the techniques used by opposing factions in each of the films. *Examples:*
    a. *Glen Canyon*
        (1) Students will list the groups involved on either side of the issue.
        (2) For each group the students will create a priority list as to what are the important values expressed by each group.
        (3) Are there other positions which could have been present but weren't?
    b. *The Two Yosemites*
        (1) Students should appraise the concept of minority vs. majority opinion and the idea of what action is of value (or better) for the larger society.
    c. *The Redwoods*
        (1) Students should assess the uses of redwood against the value of stands of virgin forest.
        (2) Students should outline the views of those who wish to preserve the redwoods against the views of those whose livelihood depends on the cutting of the trees.
        (3) Students should attempt to explain in an oral presentation their attitude and values toward the use or conservation of a tree or stand of trees.
        (4) Students compare the values of the conservationists and the utilitarians on the various issues brought forth in the discussion of all of the examples.
    d. *Pave It and Paint It Green*
        (1) Students should discuss the use of a National Park

and what they feel are appropriate activities in such areas as Yosemite or Yellowstone.
Note: This film depicts the misuse of Yosemite Valley in a very stark manner. It should itself cause your students to raise questions about people and their attitudes toward nature and places set aside for the enjoyment of nature.

LESSON 2: THE AMERICAN FRONTIER

Materials:

Film: The Real West,
Contra Costa County Educational Media Center

Rationale:

This film presents the westward movement from the period of the Civil War to the close of the frontier in the 1890's. All participants in the drive toward the west are included. It is particularly important to look into the motivating forces for various people on the frontier (the trapper/explorer, the miner, the cattleman, the homesteader). It is of particular importance to explore the use of the wilderness by the Indian opposed to the white frontiersman. It may also be of interest to look into the roles of men and women on the frontier. There is a discussion of the frontier in the student reading. You might introduce the ideas of "new frontiers" at this point in the unit, although you will have to drop it until the last unit. The first assignment in regard to that unit could be explained to the students at this point and given to them as outside work as a long-term in-depth assignment.* If time allows you might suggest that the students seek experts on the subject of the oceans and their use. They could start by writing letters to congressmen, environmental organizations and university departments. When this technique has been used, students have received abundant information and have acknowledged that in

*See Assignment: Oceans in the Appendix, page 103.

fact congressmen and other concerned people do exist and are more than willing to assist them.

Procedure:

Students should be placed in seminar groups of fifteen. The first segment of the seminar should seek to establish the degree of understanding that the students have about the concepts ethic, value and attitude. The students should have time to review these concepts from the earlier readings, in particular Challenge of Man's Future, and Hardin, Tragedy of the Commons. An effort should be made to differentiate between the terms so that all parties in the seminar have the ability to communicate with one another. After the students have become acquainted with these terms the depth of understanding should be tested with a number of examples.

The last portion of the seminar should be devoted to the discussion of the ethics, values and attitudes expressed in the film The Real West by each of the particular frontiersmen (above) toward his environment.

If time permits, a follow-up seminar might again review the film in light of the attitudes held in the films The Glen Canyon, The Two Yosemites, The Redwoods, and Pave It and Paint It Green.

The Glen Canyon contrasts the natural beauty of the canyon, which was a very deep, colorful river-cut canyon, with the need for other uses of water. It was used as a recreation area by people who floated the river on rubber rafts and explored the depths of the major canyon and a variety of side canyons. The Glen Canyon Dam was built, which resulted in the filling of the canyon with what is now Lake Powell. The major conflict was between the people who loved the wild canyon and the stated need for a reservoir, which promised water recreation for more people, as well as hydroelectric power and irrigation---this, of course, at the expense of the aesthetic value of the wild canyon.

The Two Yosemites contrasts Yosemite Valley with its sister valley, Hetch-Hetchy. At the turn of the century, the city of San Francisco turned to the Hetch-Hetchy River as a source of water for growing needs of the city. John Muir, founder of the Sierra Club, opposed the damming of the river and the destruction of the valley. The city won out in the courts, and the dam was built. The city's promise of a recreation center never came to be. Today the valley is desolate and subject to more dust storms than visitors. Here is the clash of one man with the city of San Francisco over the use of a wild river valley, which was taken out of park status to provide for the needs of an ever-growing city.

The Redwoods describes the tallest living trees in the world and the conflict which arises between conservationists and other groups that utilize the redwoods. The sharp clash of the conservationist with the lumberman, the highway engineer and those economically dependent upon this tree are documented in this film.

Pave It and Paint It Green shows the natural beauty of Yosemite Valley and how the addition of too many people foul the valley with air pollution, crowding and garbage. It also raises questions about man himself, and his inability to escape the city. With him to the valley come portable radios, record players, hair curlers and other aspects of city life.

Note: It is expected that by this point the students will have a clear idea that there have been forces that have clashed over the use of the natural resources of the land, and that there have been a number of motivating factors, most of which historically have been inclined toward the use and development of resources.

Example Questions (Seminar):

1. How do you judge one's idea of what is right and what is wrong?
2. What ought our attitude be toward:
   a. drug use
   b. petting - how far to go
   c. recycling
3. What is the foundation for the ideas we have toward the three ideas above?
4. In the case of each of the films we have seen, what would be your personal preference in regard to the dams or the cutting of the redwoods? Who would be affected?
5. How would you justify a commitment to a position on the issues that would affect others?
6. In terms of the films that we have seen in the lesson, explain the ethic, value and attitude of various people on the American frontier in terms of their use, abuse and understanding of natural life with which they came into contact. Students should establish a scale consisting of a ten-point spread. Point #1 may be labeled "TOTAL CONCERN" and Point #10 "TOTAL APATHY".

LESSON 3: IN CONFLICT

Materials:

Ditto assignment,
"Environmental Conflicts"
(See Appendix, p. 104)

Rationale:

The students should cope with various conflicts that have occurred and are occurring on a variety of levels of jurisdiction. In each case it is important to define the issue, seek out generalized and specific groups in conflict. From the preceding assignment it should also be pertinent to evaluate the values and attitudes and ethic of each group. In any conflict a case must be made for a position that is held; in this assignment the students should assess the manner in which each party to a dispute makes its case known. Lastly the students should judge the state or stage of the case at present.

Historic Issues

1. John Muir vs. Hetch-Hetchy
2. Timber, Homestead and Mining Acts
3. California Hydraulic Mining

Recent Issues

1. Miami Airport - Everglades
2. Four Corners Power Complex
3. Santa Barbara Oil - GOO
4. Peripheral Canal
5. Baldwin Channel
6. Save the Bay (BCDC)
7. Las Trampas Park
8. Bollinger Canyon
9. Alaskan Pipeline
10. Fishing Rights
11. Tahoe Basin

Extra-Credit

1. Martinez-Livermore Bicycle Trail
2. Other - a local issue of concern.

Procedure:

The students will be given an assignment that puts forth a number of issues that have been or are being fought in administrative, legislative, or legal ways. The scope of the assignment includes cases that deal with conflict on a local, state, national and international level.

The students should be given library and class time to complete the assignment. They may work in groups of up to five in number. They should be encouraged to contact local ecology groups, real estate developers, agriculturalists and people from industry. These people may provide an enriching experience for the students. If time permits, or as a follow-up to this assignment, the students may also write letters to people involved---governmental officials, etc. See the Appendix for a list of conservation groups, development groups and government agencies which may be helpful. National publications (Time, Newsweek, U.S. News and World Report, etc.) will carry stories on all but the local issues.

In a written report the students will answer all questions on the ditto assignment, "Environmental Conflicts". They will also present their information to the class orally and hold all data for use in the next unit.

LESSON 4: TOWARD AN ETHIC

Materials:

Reading: Comparison of Ethics

Rationale:

Our particular ethic toward our environment stems much from our Puritan past. This ethic differs substantially from an Eastern attitude toward the environment. Our attitude has always been based on the conquest of the wild, whether it be in God's name, in the name of civilization, or for profit. Regardless of motive, our struggle to tame the wild has been interpreted as progress.

The reading examines statements made by explorers, settlers and churchmen of the early Colonial Period.

Procedure:

The students will be given a 7-page reading and a portion of class time to complete and discuss the reading. This assignment should be given in conjunction with the preceding assignment and the dual activities carried out simultaneously. A seminar or discussion should be held to assess the validity of the rationale for the assignment.

Examples of Questions:

1. Define clearly the attitude of the early Americans toward their environment.
2. List statements and adjectives that express a value toward the environment.
3. Discuss what is the attitude toward the modification of nature (the biblical ethic of man as master of the world).
   a. modification equated with progress
   b. control to eliminate fear or destruction
   c. utility of mankind toward civilization as the standard of behavior
4. Discuss (what is?) the ethic based on man solely as a member of the environment.
   a. primitive nature as being pure
   b. nature equated with beauty
   c. destruction of nature is evil
   d. man and his place in the environment as a member of the animal kingdom

Because the above is complicated, complex and open to much controversy, it may be beneficial to prolong the seminar or discussion, or to develop a further research assignment connected with the above questions. The research assignment may allow the students to discover the dominant American ethic toward the environment.

Note: Of interest here are two recent books, both of which discuss attitudes and ethics and the clash of opposing attitudes:

Reich, Charles A. The Greening of America. New York: Random House, 1970.
Roszak, Theodore. The Making of a Counter Culture. Garden City, New York: Anchor Books, 1969.

The students have found the levels of consciousness quite interesting, and if presented in an abbreviated form, quite understandable.

LESSON 5: ANOTHER ETHIC

Materials:

Ditto assignment: "Roots of Conservation" (See Appendix, page 107)

Rationale:

The students have been exposed to readings which deal with the utilitarian ethic in the previous lesson. This ethic, of course, is not the only one that man held toward the environment; there were counter-forces. These forces take root in the early part of the last century and are with varying degrees of success carried through to the present.

Procedure:

The students will be given the assignment, "Roots of Conservation". This assignment lists a number of people, places, groups and events which the students should research. The topics include early conservationists, significant events, and natural phenomena which capture the minds of men. You might note that many names are rather obscure; you may choose those that are more familiar.

The students should be allotted enough time to complete this work out of class. On a given due date (we would suggest the projected end of Unit B), each group should make a brief presentation to the class. You might suggest that their task here is to piece together a history of the conservation movement in the United States. If time permits, you may want to have the students construct a time line using their topics, in order to put the lesson into perspective.

Two books of recent publication (in addition to the books by Reich and Roszak) will be of particular interest to the students for this assignment:

Highsmith, Richard M., Jensen, J. Granville, and Rudd, Robert D. Conservation in the United States. 2nd ed. Chicago: Rand McNally & Company, 1969.

Nash, Roderick. Wilderness and the American Mind. New Haven: Yale University Press, 1967.

LESSON 6: ANOTHER LOOK

Materials:

Ecology Simulation from
Coca-Cola Bottling Company:
"Build a City". Available
from local branches of the
Coca-Cola Bottling Company.

Rationale:

The simulation game deals with space and the utility of the space that people have to work with. The students are given the option of adding substantial developments to a small community on a game board. In playing the game, students are introduced to and involved with the forces of pressure group activity. Their experiences may be transferred to a local, national or world situation.

Note: This game is intended for much younger students, but it has been our experience that high school students enjoy playing the game, and it does focus on a number of concepts pertinent to the development of conflict. There is a second simulation game included; this game deals with the spaceship earth concept and could be used in the first unit.

Procedure:

The game is played by any number of students (preferably no less than 12 and no more than 50) on a board measuring approximately 4' x 6', on which is represented a small community. As it exists, this community has a few streets, a school, churches, a small business district, a small industrial park and a cattle pen. There is a river which runs between the community and agricultural land; there is forest land, mountains and small ponds. Nothing like air, space or water may be added.

The game proceeds as the students are asked to play roles in the community (name tags are provided for these roles to avoid confusion as to who is playing which role). The roles (children, real estate, store owners, farmers, sportsmen, deer, fish, trees, water, soil and air) should be played out to represent the wishes of the group represented by the students.

The students are then presented with a variety of proposed developments which can be added to the game board (airport, game preserve, dam, shopping center, industrial park, marina, freeway, amusement park, speedway and apartment complex), all of which will cover portions of existing features. It works well for the teacher to act as the promoter of these developments (the "flim-flam man", if you like). The students should discuss each proposed development from the perspective of the role they represent. A vote is taken; if a majority approves, the development is added to the board. Some developments require the addition of houses to the board, as well as garbage dumps. Appropriate game pieces representing these developments are included with the game. The game is continued with the next proposal, until all the proposals have been either accepted or rejected.

The game is excellent in that the students discover the forces that develop pressure groups and what forces bring pressure together. In particular, the store owners and real estate people will often side for development against the children and the trees. There is also the question of an altered development and how much a given community can absorb.

In the critique of the game, the students should:

1. Compare a proposed development in the game with a similar development in their own community.

2. Assess the bases of power in the game with where the basis of power exists in their own community.
3. Describe an ethic brought forth in the game by one particular group.
4. List issues and groups in their community.
5. Assess what the ecological problems of the community would be if all of the developments were placed on the playboard.

LESSON 7: MINERAL KING

Materials:

Readings: McCloskey and Hill, Mineral King: Mass Recreation Versus Park Protection in the Sierra, published by the Sierra Club; "Mineral King Offers Recreational Potentials Equal to Any in the United States", Disneynews #MK-3 (rev.), published by Walt Disney Productions.

Rationale:

The conflict over the development of the Mineral King area is the major theme for the unit and allows the students to acquaint themselves with the breadth and depth of a conflict over an environmental issue. Brought into play will be the conflicting forces party to this dispute, as well as the legal methods to resolve such a conflict. The principle objective here is to work with the issues as presented by Disney Productions and the Sierra Club. Focus should also be placed on the concept of greatest good for the greatest number and whether this concept applies in the case of Mineral King.

Unit C will consist of a simulation game dealing with the

Mineral King issue and will allow students the opportunity to play out the roles of the parties involved in the dispute.

Procedure:

Students should read the Mineral King reading carefully. To aid them they should:

1. Outline the arguments by the Sierra Club and Walt Disney Productions.
2. List the negative and positive aspects of the proposed project.
3. Outline the arguments on a priority list that they would use if they had to argue the case in a debate format.

It is suggested that the teacher provide the students with ample time to discuss the above three points; this may be accomplished in a general class discussion or in seminar groups. If a portion of the class is placed in seminar groups, others in the class may start on Unit C. They then may read the scenario that precedes the simulation game.

In the case of the pilot class, a field trip was taken to the Mineral King area of Sequoia National Park. This trip allowed the students to see a wilderness area in its natural state. A description of the field trip is contained in the Appendix.

Readings for Unit B

LESSON 4

A Comparison of Ethics:

> ...A comparison of early Western attitude toward wilderness with that of other cultures dramatizes the great influence of the Judeo-Christian tradition in arousing and nourishing antipathy. In the Far East, by way of contrast, the man-nature relationship was marked by respect, bordering on love, absent in the West. India's early religions, especially Jainism, Buddhism and Hinduism, emphasized compassion for all living things. Man was understood to be a part of nature. And wilderness, in Eastern thought, did not have an unholy or evil connotation but was venerated as the symbol and even the very essence of the deity. As early as the fifth century B.C., Chinese Taoists postulated an infinite and benign force in the natural world. Wilderness was not excluded. Far from avoiding wild places, the ancient Chinese sought them out in the hope of sensing more clearly something of the unity and rhythm that they believed pervaded the universe...[1]
>
> Freed from the combined weight of Classicism, Judaism, and Christianity, Eastern cultures did not fear and abhor wilderness. Nor did they feel...conflict between religion and appreciation of natural beauty....But Western thought generated a powerful bias against the wilderness, and the settlement of the New World offered abundant opportunity for the expression of this sentiment.[2]

Columbus on his Second Voyage to Haiti:

> ...The convenience and excellence of the harbours in this island, and the abundance of the rivers, so indispensible to the health of man, surpass anything that would be believed by one who had not seen it. The trees, herbage, and fruits of Espanola are very different from those of Juana, and moreover it abounds in various kinds of spices, gold, and other metals...[The natives] exhibit great love towards all others in preference to themselves: they also give objects of great value for trifles, and content themselves with very little or nothing in return. I however forbad that these trifles and articles of no value (such as pieces of dishes, plates, and glass, keys, and leather straps) should be given to them, although if they could obtain them, they imagined themselves to be possessed of the most beautiful trinkets in the world. It even happened that a sailor received for a leather strap as much gold as was worth three golden nobles, and for things of more trifling value offered by our men, especially newly-coined blanca [French coins], or any gold coins, the Indians would give whatever the seller required; as for instance, an ounce and a half or two ounces of gold, or thirty or forty pounds of cotton, with which commodity they were already acquainted. Thus they bartered, like idiots, cotton

---

[1] Roderick Nash, Wilderness and the American Mind (New Haven: Yale University Press, 1967), p. 20

[2] *Ibid.*, pp. 21-22.

> and gold for fragments of bows, glasses, bottles, and jars; which I forbad as being unjust, and myself gave them many beautiful and acceptable articles which I had brought with me, taking nothing from them in return; I did this in order that I might more easily conciliate them [gain their good will] that they might be led to become Christians, and be inclined to entertain a regard for the King and Queen, our Princes and all Spaniards, and that I might induce them to take an interest in seeking out, and collecting, and delivering to us such things as they possessed in abundance, but which we greatly needed. They practive no kind of idolatry [worship of idols], but have firm belief that all strength and power, and indeed all good things, are in heaven, and that I had descended from thence with these ships and sailors, and under this impression was I received after they had thrown aside their fears...[The natives] are still travelling with me, and although they have been with us now for a long time, they continue to entertain the idea that I have descended from heaven...[3]
>
> ...And then other [natives] came, bringing with them stones of gold weighing ten or twelve drama, and they feared not to confess that in the place where they gathered that gold, there were sometimes found stones of gold as big as the head of a child.[4]

A Colonial P.R. (Public Relations) Man:

Britains, you stay too long,
Quickly aboord bestow you,
And with a merry gale,
Swell your stretched sayle,
With vows as strong
As the winds that blow you.

And cheerefully at sea,
Successe you still intice,
To get the pearle and gold,
And ours to hold
VIRGINIA
Earth's only Paradise.[5]

Our Puritan Heritage:

> While the Puritans and their predecessors in perfectionism often fled to the wilderness from a corrupt civilization, they never regarded the wilderness itself as their goal. The driving impulse was always to carve a garden from the wilds; to make an island of spiritual light in the surrounding darkness. The Puritan mission had no place for wild country. It was, after all, a city on a hill that John Winthrop called upon his colleagues to erect. The Puritans, and to a considerable extent their neighbors in the plantations to the south, went to the wilderness in order to begin the task of redeeming

---

[3] Allan O. Kownslar and Donald B. Frizzle, Discovering American History (New York: Holt, Rinehart and Winston, Inc., 1967), pp. 18-19.

[4] Ibid., p. 21.

[5] Samuel Eliot Morison, The Oxford History of the American People (New York: Oxford University Press, 1965), p. 49.

the world from its "wilderness" state. Paradoxically, their sanctuary and their enemy were one and the same.[6]

For the Puritans, of course, wilderness was metaphor as well as actuality. On the frontier the two meanings reinforced each other, multiplying horrors. Seventeenth-century writing is permeated with the idea of wild country as the environment of evil. Just as the Old Testament scribes represented the desert as the cursed land where satyrs and lesser demons roamed, the early New Englanders agreed with Mighael Wigglesworth that on the eve of settlement the New World was: "a waste and howling wilderness,/Where none inhabited/But hellish fiends, and brutish men/That Devils worshiped." This idea of a pagan continent haunted the Puritan imagination. Wigglesworth went on to term North America the region of "eternal night" and "grim death" where the "Sun of righteousness" never shone. As a consequence "the dark and dismal Western woods" were "the Devils den." Satan had seduced the first Indian inhabitants for the purpose of making a stronghold. From this perspective, the natives were not merely heathens but active disciples of the devil. Mather verged on hysteria in describing "the Indians, whose chief Sagamores are well known unto some of our Captives to have been horrid Sorceres, and hellish Conjurers and such as Conversed with Daemons." The wilderness that harbored such beings was never merely neutral, never just a physical obstacle.[7]

As self-styled agents of God the Puritan pioneers conceived their mission as breaking the power of evil. This involved an inner battle over the "desolate and outgrowne wilderness of humaine nature," and on the New England frontier it also meant conquering wild nature. The Puritans seldom forgot security, and worldly comfort. A manichean battle was being waged between "the cleare sunshine of the Gospel" on the one hand and "thick antichristian darkness" on the other. Puritan writing frequently employed this light-and-dark imagery to express the idea that wilderness was ungodly. As William Steele declared in 1652 in regard to missionary work among the Indians, the "first fruits of a barren Wilderness" were obtained when civilization and Christianity succeeded in "shining...a beame of Light into the darknesse of another World." Cotton Mather's Magnalia concerned the wondrous way that religion "flying...to the American Strand" had "irradiated an Indian Wilderness." Those who resisted the "glorious gospel-shine" slid, as might be expected, ever deeper into "forrests wide & great."[8]

In view of the transcendant importance they attached to conquering wilderness the Puritans understandably celebrated westward expansion as one of their greatest achievements. It was a ceaseless wonder and an evidence of God's blessing that wild country should become fruitful and civilized. Edward Johnson's Wonder-Working Providence of 1654 is an extended commentary on this transformation. Always it was "Christ Jesus" or "the Lord" who "made this poore barren Wildernesse become a fruitfull Land" or who "hath...been pleased to turn one of the most Hideous, boundless, and unknown Wildernesses in the world...to a well-ordered Commonwealth." In Boston, for instance, the "admirable Acts of Christ" had in a few decades transformed the "hideous Thickets" where "Wolfes and Beares nurst up their young" into "streets full of Girles and Boys sporting up and downe." Johnson and his contemporaries never doubted that God was on their side in their effort to destroy the wilderness. God's "blessing upon their undertakings," the elderly John Higginson wrote in 1697, made it possible that "a wilderness was subdued...Towns erected, and Churches settled...in a place where...there had been nothing before but Heathenism, Idolatry, and Devil-worship." The New England colonists saw themselves as "Christ's Army" or "Souldiers of Christ" in a war against wildness.[9]

---

[6] Nash, p. 35.

[7] *Ibid.*, p. 36.

[8] *Ibid.*, pp. 36-37.

Understandably, subjugation of wilderness was the chief source of pioneer pride. Indeed the whole nation considered the settlement of the West its outstanding accomplishment. Timothy Dwight even felt it worthy of comparison with the cultural magnificence of Europe. "The conversion of a wilderness into a desirable residence for man," he declared early in the century, "at least...may compensate the want of ancient castles, ruined abbeys, and fine pictures." For a young country, self-conscious about its achievements and anxious to justify independence with success, the conquest of wilderness bolstered the national ego. "What a people we are! What a country is this of ours," chortled Josiah Grinnell in 1845, "which but as yesterday was a wilderness." On a humbler level the individual pioneer felt a glow of pride in clearing the land or breaking the virgin sod. One guidebook for settlers advertised: "you look around and whisper, 'I vanquished this wilderness and made the chaos pregnant with order and civilization, alone I did it.'" The same note often sounds in the rhetoric of a President who takes great pride in the way his family made the "barren" and "forbidding" country in the valley of Texas' Pedernales River "abundant with fruit, cattle goats and sheep."[10]

Of course, many pioneers deliberately chose to live in the wilderness. Many moved westward to a new homestead, legend has it, when they could see a neighbor's smoke. Love of the wilds, however, did not prompt this behavior but rather a hunger for their destruction. Pioneers welcomed wild country as a challenge. They conceived of themselves as agents in the regenerating process that turned the ungodly and useless into a beneficent civilization. To perform this function wilderness was necessary, hence the westward urge.

---

[9] Ibid., p. 37.

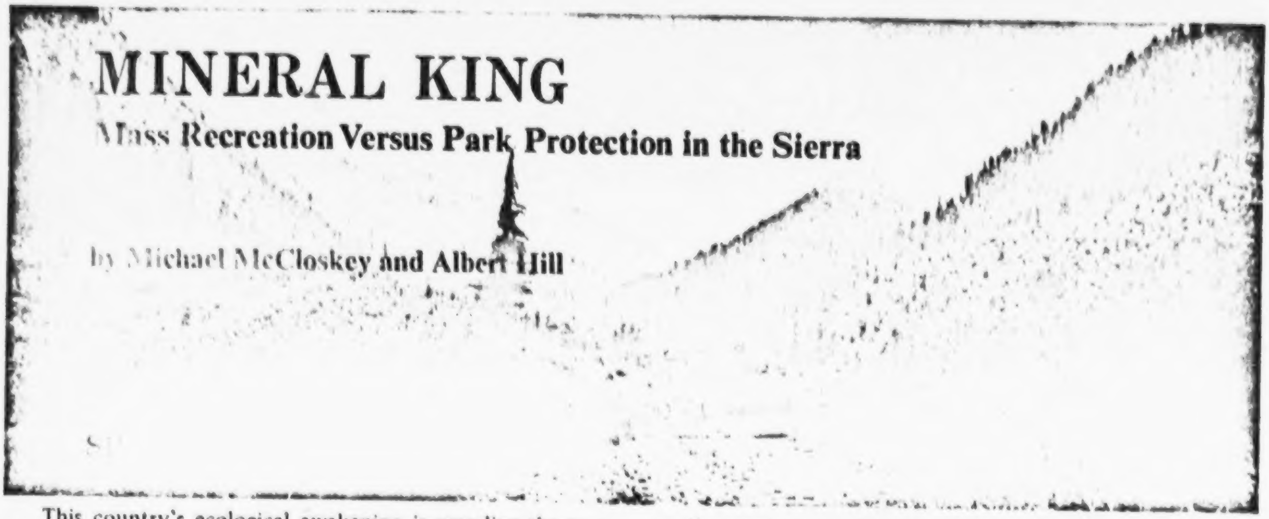
[10] Ibid., p. 42.

Only a handful of mountain men and voyageurs were literally absorbed by the forest and ignored the regenerative mission. Reverting to the primitive, in some cases even joining Indian tribes, these exceptions regarded civilization with the antipathy most pioneers reserved for wilderness.[11]

---

[11] Ibid., pp. 42-43.

LESSON 7



MINERAL KING

Mass Recreation Versus Park Protection in the Sierra

by Michael McCloskey and Albert Hill

This country's ecological awakening is revealing the trap that is implicit in planning to meet projected demands and doing so with single-minded mission-oriented thinking. The environmental dilemmas posed by this kind of thinking are dramatically illustrated by the plans for a giant resort at Mineral King in California's Sierra. Federal officials, assuming they know what is in the public interest and that they can handle all problems, have barged ahead without answers to any basic ecological questions.

Moreover, when a project such as this mushrooms into a super-project, the problems rising out of such singlemindedness multiply sharply. Mineral King is a glaring example of an approach to planning that becomes completely unacceptable once certain thresholds of size and impact are passed. In a number of quantum jumps, the project has grown to such a size that all other values are in danger of being overwhelmed.

The resort is proposed on a tract of national forest land that is tucked into an indentation on the south side of Sequoia National Park. Feeling that southern California needed a huge ski resort, and that the Forest Service needed a showpiece recreation complex, the Service issued a preliminary permit in 1965 to Walt Disney Productions to develop America's largest mountain resort. Conservationists, who felt the remote site belonged in Sequoia National Park, launched an immediate protest, and the matter is now entangled in litigation they have instigated. They claim that necessary studies have not been done to safeguard the area's fragile qualities, and that the Forest Service is blandly asserting it can handle a host of problems it has hardly begun to investigate.

THE AREA

Today Mineral King is a largely unspoiled near-wilderness region. Largely surrounded by Sequoia National Park, the Mineral King valley and the surrounding high-country form a truly spectacular scenic area. For over a century visitors have been making the trip to this remote area to enjoy its splendid scenery, its natural curiosities, and its quiet unhurried atmosphere.

Mineral King valley is the heart of this region – quite small, only about 300 acres – but more important than its size would indicate, since it is the natural scenic and ecological focal point of the area. The boundaries of the region, except on the west, are a hydrographic divide, with Mineral King forming the headwaters of the East Fork of the Kaweah River which flows out of the valley to the west across Sequoia National Park. The Valley's floor is only at an elevation of 7,800 to 7,900 feet. However, it is open and alpine in appearance, largely because the persistent avalanches that sweep down the steep slopes periodically thin out any trees – or for that matter buildings – in their paths. In all directions high peaks, some up to 12,000 feet, present imposing views.

For its size, it is over-endowed with the things a visitor looks for in a mountain valley. Five major streams – Monarch, Crystal, Franklin, White Chief and Eagle – and a number of smaller ones form cascades down the valley's walls. On their way to join the main stream of the valley, each side-stream waters its own flower garden: tiny white orchids, lilies, gentians, sneeze weed, and countless others. These gardens merge into acres of meadows in the lower parts of the valley. Around its edges a scattering of cottonwood and aspen groves provides summer shade and sometimes, in season, bright spots of autumn gold.

Each of the major streams, and several others that join the Kaweah just outside the valley, flow from glacially-formed hanging valleys, each one a separate lake basin. Of the approximately 22 lakes found in these high valleys, each one has its own character, its own unique setting; some are rimmed with tall pines, others are above the tree-line, and still others are nestled up against great stone walls left from the time when the glaciers carved out these basins.

Much of what is interesting and beautiful in this high country is fragile, easily destroyed by foot or by the blasting and earth moving that would accompany development – the perfection of a group of flowers along a stream bank, or an area of polished rocks showing the marks made by the movement of the glaciers that long ago covered this High Sierra region. While the Mineral King basin includes 15,000 acres, the impact of development will most likely be concentrated in the areas that are the most fragile and which form a relatively small proportion of the total: stream sides, lake sides, and meadows.

From atop the great walls at the tops of the cirques of these glacial valleys, one can look out across the Mineral King region at a panorama of contrasting geologies not often found

Monarch Creek, near the junction of Franklin Creek.

in the Sierra Nevada. Turning around, one is looking into the wilderness high country of Sequoia National Park, while just to the east of Mineral King you look into one of the last great wildernesses, and certainly now the most remote, of the entire Sierra.

There are many other things to see in Mineral King: bubbling soda springs, old mines, disappearing streams, and marble caves. Located at the end of a winding, narrow 25 mile-long road, Mineral King has been just far enough from the crush of visitation to preserve its fragile beauty from over use and over development. One thing is certain: the visitor to Mineral King leaves behind smog, freeways, ringing telephones, crowded checkstand lines, and a great many other "benefits" of modern life, and finds blue skies, white clouds, clear lakes, green trees, rushing streams and only the sounds of nature. Places like Mineral King are growing fewer each year. It is all too easy for them to fall to ill-conceived developments, and it is almost impossible to reclaim them.

ITS HISTORY

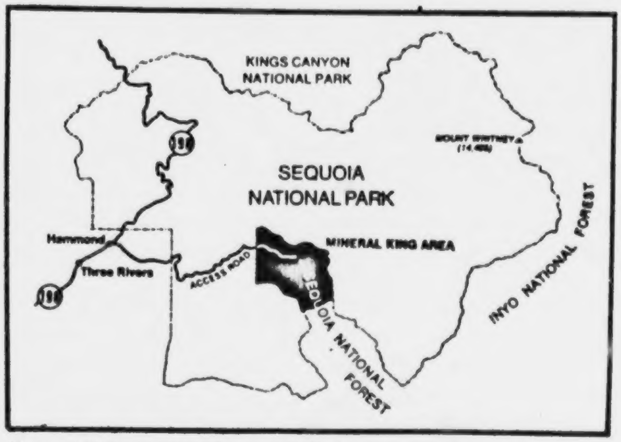
In 1926, in the act which enlarged Sequoia National Park to twice its previous size, 15,000 acres of the Sequoia National Forest were designated the Sequoia National Game Refuge (popularly called the Mineral King Game Refuge). Previously an undesignated region of the National Forest, it apparently was excluded from the enlarged Park because of mining interests still active in the area, remnants of the silver rush of 1872-1888. Since then, the mining operation and the few remaining structures associated with it have largely disappeared, and the principal value of the area is acknowledged to be for outdoor recreation.

As a culmination of interest originating in the 1930's, the U.S. Forest Service issued a prospectus in 1949 seeking private capital to develop the area for winter sports. Calling for a development which would be modest by today's standards, they were not able at that time to interest a developer because of the lack of an adequate all-weather highway from State Highway 198 to the valley. In 1965 the Forest Service issued a second prospectus, outlining a winter sports development projected to cost a minimum of $3 million. This time the Forest Service imposed a condition on the recipient of the 30-year operating permit that he secure construction of an all-weather highway to the valley before the permit could be issued. Six bids were received by the Forest Service that met the minimum qualifications. Four of these were for relatively modest developments, and two were for developments in the $35-$40 million range. Ultimately the $35-million development proposal of Walt Disney Productions was accepted, and a three-year preliminary permit for further study was issued in December of 1965.

At this time no agreements had been reached with the National Park Service concerning highway construction across Sequoia National Park or access to the Park from the Mineral King area. Apparently no one at that time questioned the resulting impact such a development would have on the park. Yet, a private developer was issued a permit calling on him to develop a plan that would require access across the park and would undoubtedly have an impact on it, without any standards having yet been established regarding the park's protection.

Later in 1968, the Forest Service's Regional Office promised to provide a period for the public to review the developer's plan before it was adopted. Conservationists were hopeful that major modifications would be made. In mid-December, the Forest Service indicated that a limited impact study it was conducting and not yet been finished but "hopefully will be some time this winter." Plans were not yet firm on a Visitor Information Service Center, which the Forest Service was implying was a major justification for the summer visitation, and "probably won't be for several months."

Nonetheless, in January of 1969, without notice or opportunity for review, a master plan differing in detail, but in outline essentially in agreement with the Disney Company's original proposal, was accepted by the Forest Service. However, the 30-year development permit was not issued at that time because agreement had not yet been reached over the access road crossing the Park. The issuance of this permit has been further delayed by legal action initiated by the Sierra



Mineral King, originally excluded from Sequoia National Park in 1926 because of mining interests active in the area at that time.

Club.

THE DISNEY DEVELOPMENT

The original Disney proposal for a $35 million project estimated visitation at 2.5 million visitors annually, 60 percent of which was to be in the summer. Subsequently this figure has been reduced twice, first to 1.7 million and later to 980,000. The reasons for the reductions are not altogether clear, but they stem at least in part from the elimination of camping of various types in and near the valley. Even at this lower figure, and some doubt it will not be exceeded, the visitation density in the valley will still be 3-4 times as high as in overcrowded Yosemite Valley. A high proportion will still be visiting the area during the spring and summer seasons when the snow does not cover the ground and the spring growth is vulnerable.

Not only is the visitation rate extremely high, but the facilities planned to accommodate the visitors are truly enormous: an 8-10 story parking structure for 3,600 vehicles including buses, a 1030 room hotel complex for visitors plus extensive accommodation for the nearly 1000 employees (some will be housed in the valley and others nearby), and a lift system employing 22-27 lifts of various sizes and types extending up to four miles into the surrounding country.

In the vicinity of the parking structure will be an "auto reception center" with extensive areas for storage, food preparation, a wardrobe department, administrative offices, hospital, heliport, and shops. From the auto reception center the visitor can travel to the village on "colorful excursion trains" where he will encounter the hotel complex, numerous shops, restaurants, a convention center, theater, and an equestrian center and arena complex. Other major facilities include a complex located out of the valley near an area known as Miners' Ridge which will be for ski instruction and presumably other purposes, and a restaurant at a high elevation near an area known as Eagles Crest.

The list of restaurants is impressive:

"Probable Mineral King food-service facilities in Year 1 will be a popular-priced buffeteria near the "family" rooms in the Village with 150 seats; a village center konditorei, or tea room and coffee shop, with a capacity of 100 seats; a 100-seat "teen center" near the "family" rooms; a gourmet restaurant with beverage service atop a village hotel, again with 100 seats; another popular-priced buffeteria, particularly attractive to one-day guests, at the automobile reception center with 200 seats; a quick-service snack bar immediately adjacent to the parking area buffeteria with a capacity of 150 seats; a 200-seat buffeteria at the Midway Gondola Terminal at Miner's Ridge, with beverage service, a facility which will convert to waitress service in the evening and for special occasions; a 150-seat coffee shop and snack service at the enclosed lift terminal on Eagle's Crest, and a medium-priced waitress-serviced restaurant atop the village gondola station with beverage service, the capacity 150 seats.

"By Year 5 the buffeteria near the "family" rooms in the village would be expanded from 150 to 300 seats, and the reception center buffeteria from 200 to 300 seats. Additionally in year 5 we will add a snack bar and sandwich shop at the Midway Gondola Terminal with a capacity of 150. A multi-themed 350-seat restaurant in the Village, with beverage service; a 300-seat waitress-served restaurant just south of the automobile reception center, and a snack service facility in an area immediately adjacent to the centralized village ice-skating rink." (From Master Plan Presentation, Walt Disney Productions, January 8, 1970).

West slope of Mineral Queen Peak, Vandever Mountain in background. A gondola terminal and restaurant would be constructed on the summit of Mineral Queen Peak, upper left.

It is important to remember that these facilities cannot stand alone, but require the development of a substantial water supply with associated water storage facilities, the development of sewage treatment plants, and local generation of power or its importation through transmission lines which would run across the park.

A development of this size will also require the construction of a substantial highway across Sequoia National Park with a capability of handling peak loads of at least 1,200 cars per hour.

CONSERVATIONISTS' OBJECTIONS

All of these facilities are needed to serve the huge numbers that will be attracted to the "mecca" that the Disney Corporation and the Forest Service plan for the area. The development of such an attraction goes far beyond their claims of meeting outdoor recreation needs. The difference in size between a $3 million development and a $35 million one was enough to alarm conservationists, but this difference does not fully reveal an equally, if not more alarming, underlying premise. This is the idea that you can vastly increase visitation and still maintain a reasonably natural condition by skillful design and cosmetics. It is specious to assert that you can build a hotel and entertainment complex, a so-called "self-contained village," as large as in our major cities and still preserve a sense of naturalness and the integrity of a fragile ecology and its beauty.

That the development goes beyond serving outdoor recreation is evident from the developers' own literature. What

South Fork Meadows, Hockett Wilderness, Sequoia National Park.

can we expect from a "controlled introduction to nature"? Disney literature says: "This organization will certainly conceive of new and interesting ways to entertain visitors and let them better understand and enjoy this area." "We will have a variety of organized activities for children of all ages . . . for both day and night, we plan frequent musicals and theatrical performances by visiting groups." Outside of a mention of imported goods, very little is said of what will be found in the village's shops.

All of this is being conducted in and near areas that have a fragile ecology. In these high elevations, the growing season is short and it is difficult for plants to become established. Any damage to the plant life may take many seasons to repair, and this disturbance, even if slight, may continue to be felt season after season. It if is heavy, as it will be in a high density recreation development, the plant life will ultimately disappear from the disturbed areas. Following disappearance of plant life, the soil can be more easily eroded. Once the soil is gone, there is no base for the re-establishment of vegetation, and it may take centuries for the soil to be rebuilt.

All of this development also is to take place in a game refuge. The most heavily impacted area, the valley, is a key part of the refuge since it is the only area of lush vegetation and is the summer range of deer and other animals which range along the East Fork of the Kaweah River. Under continual disturbance, many animals will simply leave an area even if their habitat is not completely destroyed. No studies have been conducted to find out what the *total impact* will be on animal populations or on the plant life, some of which is unique, including the oldest known Foxtail pines. On any large tract of National Forest land the public should be able to expect these matters to be looked into; in a refuge they can reasonably expect even greater care to be exercised. You cannot wait until after a project is completed to find out what damage will be done. By then the decision is largely irreversible.

Conservationists are not alone in their view of the development:

> "It is recognized that development of high intensity year-round recreational use in this restricted fragile sub-alpine area is bound to result in pronounced impacts and certain unavoidable changes." (from a letter to the Recreation section from the Range and Wildlife section of the Forest Service).

A letter from the State Department of Fish and Game confirms the fact that the development will intrude on the Refuge's wildlife:

> "This Department has not made specific studies nor prepared reports regarding the effects of this development on wildlife. We can say, however, that in an extensive development such as the Disney proposal, considerable wildlife habitat would be lost and wildlife would suffer from human encroachment."

A development of this size will unquestionably have a major impact on the ecology of Mineral King and on portions of Sequoia National Park. Conservationists find it difficult to say exactly what this will be for two important reasons. First, needed ecological research has not yet been done in the area, and conservationists do not have the resources available to do it themselves, nor can this be expected of them. It is the government agencies that should have had these studies done, for they were needed as a basis on which to decide whether development should take place. The public should be satisfied that the studies on which approval is based are adequate. Second, the master plan that has been approved by the Forest Service apparently allows for such great flexibility that major changes can take place, even within the sketchy outline of planning that is presented. It is impossible to analyze accurately what the impact will be when it is impossible to establish exactly what will be built and where.

It would seem that the public should have a right to know *exactly* what is going to be built before the project is authorized. Will a reservoir cover a large portion of the meadows in the valley? Will there be commercial helicopter service to the development across Sequoia National Park? Both of these have been, but reportedly are not currently, planned. There appears to be no guarantee, however, that both of these objectionable features could not be included at a later date, along with a number of others. The truth is that, except in a vague way, approval of the master plan by the Forest Service does not appear to specify what kind of development and operation will be built at Mineral King. The Disney organization defends this flexibility in the master plan by saying that it allows them to improve their plans up to the last minute before construction. But improve to whose standards? How large a role will economics play in setting these standards when perhaps other factors should apply? The Forest Service says they will have the final say before anything is done. Perhaps they will, but will they apply the same standards that have been applied to other ski areas, some of which are a blight on the landscape? These standards are not high enough for Mineral King or other areas. Actually, the Forest Service itself cannot tell what standards can be maintained without making the ecological studies that, as far as is known, have yet to be made.

In the alpine and near-alpine high country where a harsh climate and thin soils are a constant challenge to plant life, how much trampling and disturbance can the meadows stand before the balance is tipped against them, and the area becomes barren? How will this use increase erosion? With 22 to 27 lifts, what grand views will be left without towers and cables? Here, in this clear atmosphere, things that are miles away appear close at hand and construction scars will be clearly evident. In constructing the lifts and other facilities in the high country, will the materials and labor be brought in by helicopter, or will a road which will do considerable damage be constructed? Will the continued maintenance and service of the lifts and restaurants be done by vehicular access or by air? Neither the Forest Service nor Disney will commit themselves as to which method will be used.

In their original proposal, the Disney Corporation indicated some idea of what they felt would be necessary:

> "Grooming and manicuring of most slopes without destroying the naturalness of the area particularly for intermediates, will require extensive bulldozing and blasting in most lower areas and extensive rock removal at higher elevations. This is especially true for the Mosquito, Eagle, and White Chief Bowls and the lower Farewell Canyon area."

Other effects on portions of the area outside the valley will arise out of avalanche and flood control work. Debris dams will be constructed on the tributary streams to protect the main development from flood damage. An unknown amount of terrain will be modified in conjunction with snow fences which will probably be used to minimize avalanche hazards. A water supply and sewage disposal system will have to be developed for the remote facilities.

While no agreement has been worked out with the National Park Service, visitors to the development will be dropped by lift within easy reach of Sequoia National Park. What facilities will be necessary to protect the park and to provide for the visitors' needs and safety? In the case of one ski lift, visitors will have to ski through a portion of the park to return to the Mineral King area.

The clearing for ski runs and other disturbances will increase run-off and the debris that will be carried in the streams. This will aggravate the highly disturbed conditions in the valley, which, even without additional disturbance, shows a strong tendency toward erosion. Construction of the hotel complex outlined earlier, including swimming pools, underground utilities, and possibly underground storage, development of water supplies and sewage treatment facilities, a golf course, tennis courts, trails for horseback riding and pack animals, will result in tremendous disturbance of the area. The dangers of flooding and washout might require artificial channels for Monarch Creek, the Kaweah and East Rivers or both, to handle increased water flow.

In addition to the scarring already mentioned, the access road to serve the development would cut through unique portions of the Giant Sequoia groves, endangering a large proportion of the trees below the road. A study conducted for the State Division of Highways by Dr. R.J. Hartesveldt concerning the possible effects on the Sequoias raises these alarms:

Cleared ski slopes, Mammoth Mountain. Similar "grooming and manicuring" will be necessary for Mineral King.

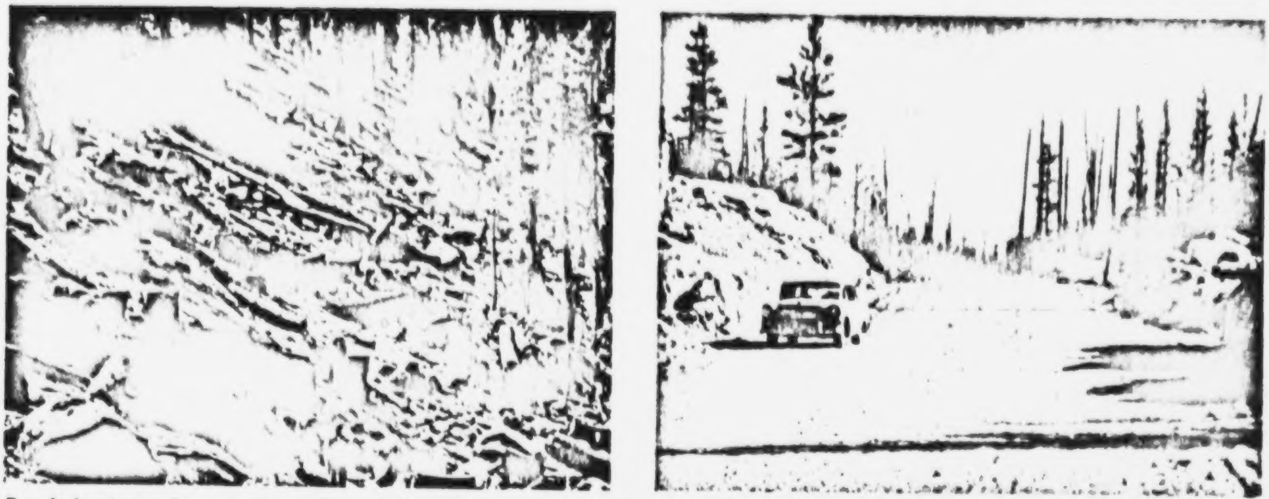
"There is much evidence of soil materials on the move in these two groves and I believe that it merits the most serious engineering consideration before the road-building commences. To me, it constitutes the number one problem involved in the preservation of park values.

"As I studied the canyon of the East Fork of the Kaweah, I was impressed with the general instability of the soil and soil materials. The evidence of erosion is widespread . . . In all, there are 103 sequoia trees below the proposed roadway centerline, of which 45 could be affected in some manner by the construction of the road."

Later in the report he comments on a proposed bridge:

"In spite of plans to bridge this deep canyon because of the depth, accelerated erosion is very likely to be a major problem no matter what engineering activities occur there . . . Of the 32 groves of giant sequoias familiar to the author, this drainage-way provides one of the most unique communities of plants he has seen in association with sequoias. This in itself makes the utmost protection desirable."

Below the valley, new problems are emerging along the proposed access road. A large private inholding within the



Road clearing and construction, Yosemite National Park. To provide access to Mineral King, a similar high-speed road would have to be built through Sequoia National Park.

Mineral King Refuge and adjacent to the National Park is the site of plans for a condominium-hotel complex that could bring additional millions of dollars of development to the area and would impose an additional load on the highway and available water supplies. So far, the County has rejected the developers' plans but there is always the possibility in the future that Tulare County might find it economically expedient to approve them, much in the manner that they have encouraged the Disney project.

In Sequoia National Park, the new road will be particularly damaging. The old road follows the terrain with much twisting and turning and does little damage to the canyon that is steep and dissected by the smaller side canyons of tributary streams. On the other hand, the new road will have curves with a minimum radius of 850 feet, which will require extensive cuts and fills and bridging to handle higher speeds. The Clarkeson Engineering report, prepared for the National Park Service and other highway engineers, raises strong doubts that this "two-lane-with-passing-lane" design will be adequate for the projected peak traffic flow of 1,200 cars per hour. The design certainly does not provide for passing lanes adequate for winter use with the need to install and remove tire-chains. There is a strong feeling that the current design is merely a foot in the door: it is less expensive and less damaging than what will ultimately be required.

While this road does not serve any park purposes, indeed does not even fit into park plans, it will bring to the park the noise and air pollution of up to 1,200 cars per hour and will overwhelm existing facilities. Who will find it desirable to camp at a park campground that will be only a few yards from the edge of a highway with its day and night traffic?

It is clear the Sequoia National Park and Mineral King have an intimate relationship. Geographically and topographically, Mineral King is isolated from the rest of Sequoia National Forest, but is surrounded by the park. Water that flows through the park originates in Mineral King and, reminiscent of the Everglades National Park situation, any change in its quantity or quality will affect life in the park. The only reasonable access to Mineral King is through the park. Increased access to the high country of Mineral King will also increase access to the high country of the park. The wildlife of the two regions is linked.

Conservationists seek a workable solution to the problem of utilizing Mineral King's outdoor recreation potential, while protecting the natural values of both the park and Mineral King. Such a solution does not appear to be forthcoming with separate administration of the two areas. There is no doubt about the fact that Mineral King is a region of National Park calibre and that the purposes to which it is best suited are compatible with National Park objectives. Coordinated planning and protection of the areas can best be achieved if Mineral King is added to the National Park.

IMPLICATIONS

The central premise of the Mineral King project is that Southern California's skiers need more ski areas. The argument is put forth that their skiers have to travel too far and that the existing areas are crowded. Some of the nearest areas which might be developed are Wilderness areas, and the opportunities for new developments are limited. The advocates of skiing development assert that it is only fair that more remote, large capacity sites like Mineral King should be developed to meet this need.

At first blush, this argument sounds plausible, even appealing. But the thinking behind it is very much like the thinking other developers advance: "our electrical consumption doubles every ten years, therefore we must build more power plants." "We must continue to build more freeways to relieve traffic jams."

We are beginning to find out that the new freeways will be crowded too, and that the new power will quickly be used. And as we are finding that anything we provide will find users, we are also finding that our environment gets a bit less tolerable with every new urban freeway and power plant.

Thus we realize that we lose something with every new development, as well as gain something. In balancing the losses and gains, we must look at the overall trends in our environment. The quality of the environment is deteriorating because of a host of decisions to move ahead with more development, each of which can be rationalized as based on a proper individual balance between losses and gains. In sum total, however, these decisions push us further and further into an intolerable situation: an environment overloaded with development, with traffic, with smog, and damaged habitats.

To stop the trend toward progressive degradation, there is a growing conviction that we must not only curb population growth but must also question the assumptions of those who say we must keep meeting projections of demand. Meeting these projections may be no more than an exercise in building self-fulfilling prophecies. These new developments will be attractive enough to build new clienteles, which can be retrospectively offered as proof that demand was in fact being met. Of course, it is equally arguable that if another option were offered, one involving environmental protection – that a clientele could be developed for it too. In this instance, it is entirely likely that inclusion of Mineral King in Sequoia National Park would attract a large body of devoted park visitors. While one could argue over comparative numbers of visitors under both alternatives, it is quite possible that just as large, if not a larger, sum total of satisfactions would accrue annually to park visitors as to visitors to the resort.

Moreover, once you play the game of meeting projected "demands," the question always remains of what you do next, once the area fills up. The logic of "building, building, building" to meet demand suggests that the process must keep on going indefinitely, or at least as long as population keeps growing and entrepreneurs promote new markets. However, it is patently evident in this case that it is physically impossible to keep going indefinitely. There are just not that many additional sites for major development. Sooner or later, the process of building ski areas must come to an end. With that in mind, we must ask: "In what shape ultimately do we want to have our mountain landscape?"; "what is the balance between development and preservation that will really best serve society?" If skiing demand in any event is going to be left unsatisfied at some later stage, why let it go on proliferating past the point of proper balance? Shouldn't we really draw the line to keep fragile landscapes, such as the Sierra, in the best shape we now know how to provide, and keep overpowering projects like Disney's Mineral King development out?

Another disturbing aspect of the case for the Southern California skiers is the unspoken assumption that there is some obligation on the part of public authorities to provide expanding opportunities for every kind of sport, no matter what the inherent obstacles. Clearly no part of the southern United States is ideally situated to serve skiing. The region suffers from basic climatic disabilities, just as northern regions suffer from disadvantages in having sufficient opportunities for warm-water ocean bathing.

Nevertheless, Southern Californians seem to feel that engineers should be able to rescue them from all their climatic disabilities, from lack of water, to air, to skiing. If the area is so far from enough water, their answer is re-engineer the state's northern rivers to run them southward. If the area lacks nearby skiing, the answer is to move higher into the Sierra with subsidized access and plans for high volume use to make skiing there financially feasible.

Present road to Mineral King. Following the terrain with much twisting and turning, it does little damage to the canyon.

In both cases, the resource is bent drastically to rescue a demanding population from the short-comings of a particular area in which they have chosen to locate themselves. The question can just as well be asked for skiing as for water: "Why not locate the people in places where these opportunities can be afforded with far less violence to the landscape and its resources?" Certainly, people are not going to move out of Los Angeles in droves just because Mineral King is not built, but preventing its population from reaching farther and farther to abuse resources may gradually make Los Angeles a less and less attractive place to live. This is one way to bring the Los Angeles syndrome to an end.

THE NARROW VISION OF BUREAUCRACY

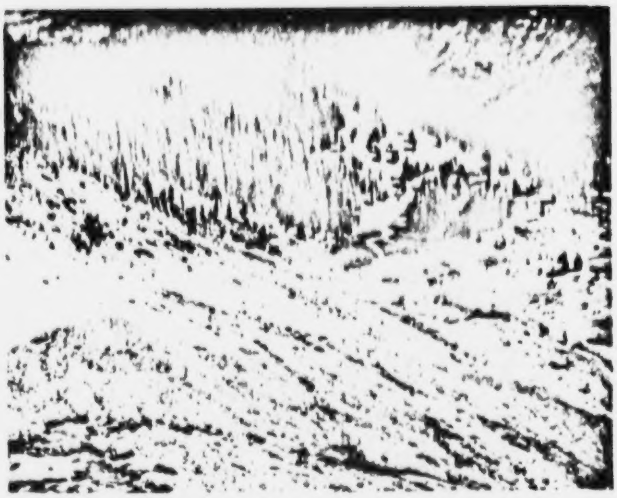
Related to the problem of purported need is the question of how decisions such as this one should be made: Somehow, in the case of Mineral King, the Forest Service has always assumed that development should be pushed, that it was in the public interest. Building a resort was the assigned mission. This assumption grew out of studies done in the nineteen thirties and forties which identified the skiing potential of the area. Because of growing evidence that a ski resort could be developed, the Forest Service grew to believe that it should be. There was never an opportunity to test the hypothesis that "what could be done, should be done."

Once the commitment to the mission became fixed with the Forest Service, anything that might call the decision into question was looked upon as an obstacle to be overcome. Justification studies were not done. Ecological studies were not done. Only snow and weather studies and development planning studies were done. These aided the project; the former might impede it. No judicious weighing process ever took place. By the 1940's the Forest Service had become committed, and it then became just a question of how to find the capital and the developer that would bring the project into being.

As a custodian of a public trust, as administrator of a statutory wildlife refuge, as a neighbor to a national park, the Forest Service never asked itself what was the nature of the ecology of the area. It never conducted any kind of biological survey of the area to determine what species are present, with what kind of distribution and in what numbers. It never sought to identify how fragile the margins of life might be in the basin, nor how delicate habitat needs might be. In internal memoranda, some of the Forest Service's own biologists revealed their concern over these failures: "The total basic concept of development appears badly biased in orientation toward a highly artificial, continued situation, without any real attention to ecological factors . . ." (Memorandum from Range and Wildlife Management Section, Jan. 6, 1967). "I would hope that we study the impacts of this concession for a long time before permitting another one" (Memorandum of Jan. 21, 1969 from Director of Division of Wildlife Management).

In the tradition of mission-oriented agencies, the Service as a whole simply maintained that all problems would be adequately dealt with. The Service, which nationally conceives of its main mission as cutting and selling timber, is accustomed to thinking that the landscape can be treated roughly without worry. It was sure some sort of mitigating provision could be put in the plan to deal with each objection that might arise. Since 1965, the Forest Service has engaged in patch-up planning to respond to various objections. A high-rise auto garage will be built instead of using up lots of space for parking. To avert the problem of traffic in a narrow valley, the garage has been moved steadily down valley. To respond to the problem of separating paying visitors from campers, provisions for camping have been phased out. In response to suggestions that the area will be too crowded, the initial traffic estimates have been cut back. Significantly, most of these problems were not anticipated by the planners. These were the planners' responses to public criticism. The planning process has proceeded in a single-minded, defensive fashion.

Not only has the Service assumed that ecological problems could be overcome, it has also assumed that there were no real ecological limits on what they might do in the valley. The concept of any natural carrying capacity for the basin is absent from their planning. No studies have been done on the relationship of foot traffic to ground vegetation. No studies have been done on summer range needs of migratory deer herds, although the suggestion has been made that deer members should be reduced to minimize problems of conflict. This means "kill the deer" to solve the problem. No data have been gathered to suggest at what levels of human use and in response to which patterns, the natural flora and fauna begins to decline, and whether there are any sharp dropoffs in the decline. In a wildlife refuge and an area which qualifies for national park status, the Service is flying blind. Its only studies are on how to re-plant bulldozed ski runs.

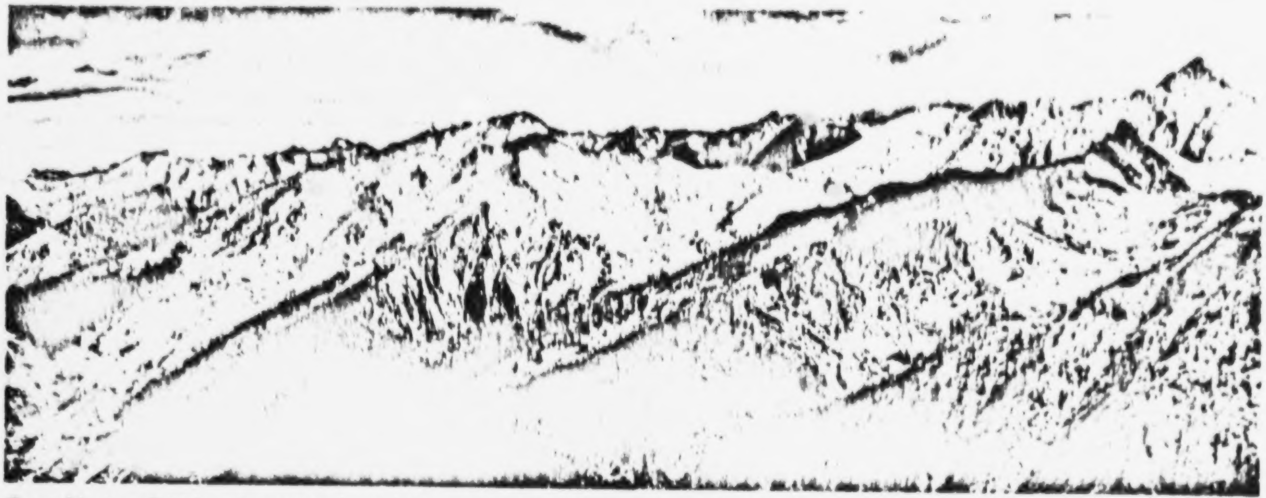

Mineral King Basin.

What is worse, historically the Service has assumed that the bigger the project is, the better. What was conceived of as a project costing a couple of hundred thousand dollars in the 1940's, jumped to a $3-million dollar minimum project in February 1965, and to a $35 million project in late 1965. Now with accompanying private developments proposed by other entrepreneurs, the prospects are that $50 million to $75 million may be spent along the East Fork of the Kaweah River. At last the Forest Service is balking at the proliferating plans of others, but clearly the whole concept is out of control. Through a series of quantum jumps in size, the whole character of the development has changed. It now threatens to be a monstrous blot upon the landscape.

The Service has placed no ceilings on size in the use permits, and the whole idea of ceilings is foreign to the Service. It thinks of minimum requirements only, with no standards on what can and cannot ultimately happen in the valley. Each new increment of development will be looked at on a case by case basis, with the Service bound to be caught facing a developer always claiming he needs the added development to make a profit. Once developers have their investment in an area, experience proves how nearly impossible it is to control their demands, particularly when no limits were set in the first place.

The only limit the Forest Service has promised is to restrict skiing numbers to what the lifts can handle. Subject to this vague standard, additions will be made as needed to the parking garage, and overnight accommodations will be added to respond to the market. As the late Walt Disney himself said, ". . . our efforts now and in the future will be dedicated to making Mineral King grow to meet the ever-increasing public need. I guess you might say that it won't ever be finished."

Clearly the public has ample grounds for raising objections to this project. However, the public has really never been provided with a forum to raise them. The Forest Service has been unwilling to even hold one public hearing on the proposal. It made up its mind and did not want to clutter up the record with objections. In fact, not one single agency with responsibilities in the matter has ever held a hearing on the question of whether the development should take place. The only public hearing the Forest Service can cite is one held in 1953 by the Tulare County Chamber of Commerce, which was promoting the project. Actually, this was an invitational meeting presided over by a local Congressman.



Great Western Divide. A proposed gondola would ascend to the left slope of Sawtooth Peak, upper right corner.

ACTION AGAINST THE DEVELOPMENT

The Sierra Club asked for hearings immediately after the prospectus was issued early in 1965. The club was turned down by the Forest Service, which held that it was engaged in a routine matter of issuing a special use permit. Thousands of these are issued for everything from a cabin permit to a right-of-way for a telephone line. However, these vary drastically in terms of impact and permanency. At the scale to which this project was now multiplied, it probably represents the largest and more permanent private installation ever contemplated on public land. The Service, however, treated it as if it were no different from any other. In terms of importance, the issue exceeds many that Congress deals with every day. The character of the land involved and the sums at stake make this a national issue, but the Service claimed this was exclusively a matter within its administrative prerogatives.

The California authorities, charged with building the access road, were equally reluctant to open the matter to public scrutiny. The road was placed in the state highway system in July of 1965 by means of a rider on another bill. No legislative hearings were held. By clandestine maneuver, the then President of the Senate was able to settle the matter. At meetings of the State Highway Commission, the question was never "should the road be built?" It was always "where should it be built, and when, and at what cost?"

At neither the state nor the federal level did the critics ever have a chance to state their case. The best they could do was to use a 1966 hearing on wilderness zoning within Sequoia National Park to talk about their fears with respect to what was being planned on adjoining Forest Service land. Alas, the critics were complaining to the wrong agency.

The closed nature of the planning process forced the critics to shift their tactics. After failing to get a hearing from the Regional Forester in the summer of 1965, they appealed the Chief of the Forest Service in Washington and then to the Secretary of Agriculture. These appeals succeeded in delaying the award of a preliminary permit from September of 1965 to December of that year. Basically, however, the Secretary ended up ratifying what the Service proposed.

Beginning in December 1964, a three-year-long contest of wills developed between the Secretary of Agriculture and the Secretary of the Interior. The Interior Secretary was reluctant to grant the necessary right-of-way permit through Sequoia National Park for the new access road, because the Park Service's own studies showed it would actually harm the park. However, by 1967 heavy pressure stemming from the White House was brought upon the Interior Secretary to relent. In a complicated set of trade-offs engineered by the Bureau of the Budget to keep peace between the two contending departments, Interior was instructed to promise to grant the right-of-way when it was needed. The trade-offs involved land exchanges in connection with a Redwood National Park and a jurisdictional transfer involving land needed for the new North Cascades National Park. Secretary of Interior Stewart Udall, acting under instructions, then did agree to the access road, but he imposed conditions that it always be limited to no more than a two-lane road and that it be constructed in a way that would minimize damage to the park.

The context again in which these trade-offs were negotiated precluded public involvement. By their nature, these were secret proceedings which only happened to be exposed as an outgrowth of the heated controversy over establishing a Redwood National Park. Without public knowledge, the President made a decision to prevent the Secretary of the Interior from doing his duty, as he saw it, of protecting the parks that were, by law, placed in his care.

The secret and closed nature of the whole process by which decisions were made in this case left the critics with no recourse but the courts. In addition to all the policy grounds for questioning the project, there were grave legal questions about its lawfulness. When all other avenues of recourse had been exhausted and the Forest Service made it clear it was about to proceed with issuance of a final permit, the Sierra Club filed suit to stop the project. The lawsuit was filed in June of 1969 against both the Secretary of Agriculture and various Forest Service officers and also against the Secretary of the Interior. It sought both a finding that the project was illegal and preliminary and permanent injunctions against any steps being taken to build the project. In July of 1969, Federal

District Court in San Francisco granted the preliminary injunction, and thereafter the government appealed the decision to the Court of Appeals for the Ninth Circuit, which overruled the trial court. The Club has now appealed this ruling to the Supreme Court.

In its allegations against the Secretary of Agriculture, the lawsuit charges that the project will sprawl over more than the 80 acres which Congress has set as the limit for resorts developed under lease on national forest land. In point of fact, the resort will cover some 300 acres. The Service intends to put this excess acreage on so-called year-to-year leases, while putting only 80 acres on a thirty year permit as provided for by statute. The suit alleges this arrangement is "a clear and patent effort to circumvent the 80-acre limitation."

The suit also alleges that the proposal to put a giant resort in Mineral King conflicts with the designation which Congress bestowed on the area in 1926 as the Sequoia National Game Refuge. The statute permits only such uses of the refuge as are "consistent with the purposes for which said game refuge is established." How can a $35 million development in the heart of the refuge's best habitat possibly be considered a compatible use? The suit cites a state game authority who says "considerable habitat would be lost and wildlife would suffer from human encroachment," and a Forest Service wildlife authority who states: "The extent and nature of the proposed alteration of the basin is unacceptable to us – the damages extend beyond the effects on fish and wildlife, and these alone are critical."

The Forest Service's jurisdiction over the refuge is also challenged. The club's brief asserts that jurisdiction over wildlife refuges was transferred to the Secretary of the Interior by the 1939 reorganization act. The suit also charges that the Secretary of Agriculture and the Forest Service have acted arbitrarily and capriciously in failing to consider necessary factors in planning the development, such as its impact on ecology. It also charges them with failing to follow proper principles of administrative law, especially in refusing to hold public hearings on the proposal.

Because the Secretary of the Interior was on the verge of issuing a right-of-way permit for the access road through Sequoia National Park, he was also joined as a party. The suit points out that the organic act of the National Park Service and the act establishing Sequoia National Park make the Secretary of the Interior responsible for preserving the natural objects, wonders, and timber in the park from injury. One consultant on the impact of the park road estimated that as many as 45 giant sequoias within the park could possibly be jeopardized by the road. If the Secretary were to approve such a road, which could injure the natural objects of the park and does not serve its purposes, the suit alleges he would be violating his duty under these various acts of Congress.

The suit also claims that construction of the road violates administrative procedures of the Department of the Interior. It asserts the road is not being constructed in conformance with established standards and policies for park roads, nor are requirements for hearings on routing and design being followed. The suit asserts finally that Congressional approval is needed before an electrical power transmission line, needed by the project, can be routed through the park.

Mineral King, present village in trees (foreground).

CONCLUSION

The course of events that gave birth to the controversy over Mineral King can be instructive for all public resource agencies. The proposal's history shows how an agency can be trapped into assumptions that may not stand the test of time and changing needs; how a plan cannot be projected into larger and larger formats; how difficult it is to get ecological thinking injected into planning once a developmental goal is assumed; and how closing the public out of the planning process is only likely to lead to litigation and further delay.

Mineral King stands as an object lesson of how not to plan a public resource. While the answers about what can ultimately be done in Mineral King must await further studies, it is quite clear that not enough study was done to justify the project that has been proposed. As it is now proposed, Mineral King is a symbol of what cannot be permitted to overtake the Sierra, or our other fragile natural regions.

In one sense, the Mineral King controversy appears to be a forerunner of things to come. But in another sense, it is an example of an old kind of thinking that has outlived its usefulness. Controversies such as at Mineral King will provide a contest between ecological thinking and the pressures of the entrepreneurial spirit.

One can hope that public agencies will not continue to have such a hard time deciding which side they are on.

REFERENCES

Anderson, Dewey. "Mineral King – A Fresh Look." *National Parks & Conservation Magazine.* May, 1970. pp. 8-10.

Hon. George E. Brown, Jr. "The Mineral King Controversy." *ongressional Record.* December 8, 1969. pp. E10430-38.

Hon. Phillip Burton. "What is Mineral King?" *Congressional Record.* July 8, 1969. pp. E5673-74.

Cannon, Julie. "The Sierra Club Goes to Court for Mineral King." *Sierra Club Bulletin.* June, 1969. pp. 6-7.

Forest Service, U.S. Department of Agriculture, California Region. February, 1965. *Prospectus for a proposed Recreational Development at Mineral King in the Sequoia National Forest.*

Hano, Arnold. "Protectionists vs. recreationists – The Battle of Mineral King." *The New York Times Magazine.* August 17, 1969. pp. 25-66.

Hope, Jack. "The King Besieged." *Natural History Magazine.* November, 1968.

McCloskey, Michael. "Why the Sierra Club Opposes Development of Mineral King." *Sierra Club Bulletin.* November, 1967. pp. 7-10.

Photographs by Bruce Barnbaum, Allen Malmquist, John Rettenmayer.

Why the Sierra Club was founded.

John Muir founded the Sierra Club to enable more people to explore, enjoy and cherish the wildlands that are their heritage. He felt that man should come as a visitor to these places (the mountains, river canyons, coasts, deserts and swamps) to learn, not to leave his mark.

From experience, we know that these places are only as safe as people, knowing about them, want them to be.

Time has proven that the people the Club takes to the mountains, rivers and other wild places, become their most determined defenders.

Through them, the Club helped bring the National Park Service and the Forest Service into existence; played a leading role in the establishment of such national parks as Kings Canyon, Olympic, Redwoods, and the North Cascades; was instrumental in creation of the Wilderness Preservation System and the Wild and Scenic Rivers System; and led the defense of Yosemite and Grand Canyon national parks and Dinosaur National Monument against dams.

The challenges ahead.

While much has been done to ensure that wildlands will not vanish from our lives, too little has actually been saved. Man's rising tide threatens to engulf the little that still remains unprotected, and the quality of life everywhere declines.

Protected areas must now be expanded: we need more national parks, wilderness areas, wild and scenic rivers, natural areas, and wildlife refuges; endangered species must be protected, estuaries safeguarded, scenic shorelines conserved, and open space reserved around our cities.

The environment of the cities now also needs to be made fit for man: we must be more effective in combatting air and water pollution and the prevalence of chemical contaminants, noise, congestion and blight. Most of all, we must control the growth of human numbers so that a balance may be struck between man's works and the remaining natural world. Technology must be challenged to do a better job in managing the part of the planet it has already claimed.

How to become part of it.

All who feel the need to know more of nature, and know that this need is basic to man, are invited to join. Anyone who is at least twelve, anywhere, can join by merely applying. We will sponsor you automatically.

You can be as active as you want – we put dozens of outings into the field every weekend, and our conservation campaigns need all the help they can get. We will value your membership alone, however, because it shows you care and allows us to carry our message to more people.

The Sierra Club is expanding in every way: in size, extent and range. It now has 33 chapters in 50 states, with offices and staff in San Francisco, New York, Washington D.C., Tucson, Seattle, Los Angeles and Alaska.

Wherever nature needs defense, the Sierra Club wants to be on the scene. We welcome all who want to be part of this defense. With new members strengthening its resources the Club can better act on behalf of all that is defenseless, irreplaceable and voiceless in our natural heritage.

Admission fee and dues:

Admission fee, $5. per person; or per family, when members of an immediate family apply at the same time. Admission fee waived for full-time students; please supply name and location of school.

	Dues	Admission	Total
Regular	$12.00	$5.00	$17.00
Spouse	6.00	5.00	11.00
Junior (12 to 21)	5.00	5.00	10.00
Supporting	25.00	5.00	30.00
Contributing	50.00	5.00	55.00

Dues are for one year's membership and renewal notices will be sent annually. Dues include subscription to Sierra Club Bulletin.

Sierra Club, 1050 Mills Tower, San Francisco 94104 Date....................

I have informed myself about the purposes of the Sierra Club and wish to support them. I hereby apply for membership and enclose $__________ as admission fee and dues, which will be refunded if I am not elected.

Print Name Mr. Mrs. Miss ....

Print Mailing Address ....

.... Zip Code ....

Tel. No. .... If under 21, give date of birth ....

Signature of Applicant ....

I sponsor the applicant and believe him interested in advancing the club's purposes. (Sponsor must be over 21 and a member for a year. If you know no members, write the Club's President.)

Print name and city ....

Signature of sponsor .... Date ....

Sierra Club, 1050 Mills Tower, San Francisco, Calif. 94104 *January 1971*

A reading has been omitted here for reproduction purposes. It is:

Walt Disney Productions Disneyws. Mineral King Offers Recreational Potentials Equal to any in the United States. The address of the publication is 500 South Buena Vista Street, Burbank, California

UNIT C

Adjudication As a Method of Conflict Resolution

To the Teacher: The last two sections of this course are intended to create specific classroom situations from which the students will learn because they are participating in the activity which is a reality in and of itself as well as a reflection of the real world in which they find themselves. Therefore, encourage the students to "live" the games and not just play them for a grade. The more the students become involved personally in the situations of the games, the more they will learn about themselves and the world.

Simple as the above advice sounds, it does create a problem in grading. The orientation of the games is process rather than subject matter; however, the research, readings and participation lead to questions and a desire to find out more. This will lead students to seek more information. In terms of grading, the subject matter which is available can be included in a variety of objective examinations. Hopefully, however, there will be a great deal of learning in the affective domain. Perhaps the best way to test learning in this area is to develop some type of examination for attitude changes, but this type of examination is clearly beyond the scope of this unit. Therefore, it is suggested that at the completion of each game, have the students write a first-person essay on how they reacted to the game. Use these essays as the basis for individual conferences with each student and see if you as a teacher and the student can agree upon a grade for the student for participation in the game.

Materials:

Contained in Student
Manual, Unit C, pp. 51-63.

Rationale:

Adjudication is a process whereby a conflict is resolved by a third party according to a pre-existing system of laws and procedures. The strength of this technique for resolving conflicts is found in the underlying cultural forces which generated the laws and procedures. Although many societies have had foreign adjudication procedures and foreign laws imposed on them the final result has always been the conquest of the conqueror, with the society transforming the system rather than the foreign system transforming the society.

Adjudication systems, however, are never static. As long as they are being used they are being changed. The change is usually quite slow; traditions are almost by definition difficult to change, but they do change as social needs change.

To understand the adjudication process the students must be involved in it. For this reason the third section of this unit is centered around two simulation games.

The first game is a public hearing before an administrative agency. The second game is a trial. The games are intended to illustrate certain types of governmental functions, and after playing the games the class will have concrete examples of how the executive and administrative branches of the American governmental system work in both the creation and resolution of conflict. As the students play the games they will experience an adjudication process. Learning will be both cognitive and affective. Therefore throughout both games the teacher should keep a log of students' behavior noting specifically students reactions which indicate that they are reacting to the adjudication process on an emotional as well as an intellectual level. These notes should be used as the basis of a final debriefing of both games. In this final discussion the teacher should seek to aid each student in clarifying in his own mind his feelings about the law, courts, attorneys, criminals, etc. It would be ideal if everyone was pleased with the adjudication process, but in reality they usually are not and the teacher must expect many students to react negatively to much of the adjudication process. However, by comparing this process with the alternatives (i.e. conquest, avoidance, compromise, etc.) the students will begin to discover the advantages as well as the limitations of the process.

If time permits the students can study specific techniques and resulting difficulties in the use of litigation to resolve civil conflicts. An excellent general source is the book, You and the Law, published by Readers's Digest. For specific information on environmental law, use the Environmental Law Handbook, published by the University of California through the Office for California Continuing Education of the Bar.

LESSON 1: GAME A - THE DECISION

1. Give everyone a copy of Scenario #1 (see Student Manual).
2. Divide the class into the five groups listed below:
    a. National Forest Service Board (5 members)
    b. Mining claim owners
    c. Wilderness, Inc.
    d. High Life Productions
    e. General Public (individuals or groups, e.g. fishermen, skiers, etc.)

3. Be sure each group has a leader. It will also help if the students can identify personally with the role they are playing in the game. The general public group can be expanded to include almost any possible interest group which is not represented by any of the other groups in the game.

4. The Student Manual includes a list of activities for each group. Be sure that the board's guidelines are general, require development and are published before the public meeting. Also be sure High Life's plan is extensive and will actually develop the valley, while Wilderness, Inc.'s plans require little or no development.

5. During the public hearing, allow the board to establish its own rules and procedures. Arrange the classroom with the board in front, a speaker's stand or table in front of the board and seating for the general public in the back.

6. When the board has finished the hearing, have them meet separately and decide what plan to accept. Have the decision announced by the board and then critique the game.

Critique of Game A - The Decision:

The following ideas should be explored in a general class discussion after the game is played:

1. How does an administrative hearing and decision differ from a legislative debate and vote?
2. In what ways was the hearing fair and in what ways was it unfair?
3. What are the advantages and disadvantages of administrative boards making decisions as opposed to other possible governmental decision procedures?
4. What questions do you have in regard to the procedure that we have gone through?
5. What is the attitude expressed by each group toward the use of the environment?
6. What aesthetic values does each group seem to hold about "wilderness"?
7. What value does each group place on development of portions of the environment?
8. What does each group consider as beautiful?
9. How would each group deal with the dilemma:
   a. The environment should be developed to facilitate the greatest good for the greatest number.
   b. Natural beauty enjoyed by a few must not be destroyed for the convenience of the many.

From this game and debriefing the students can develop functional definitions of the following concepts:

1. aesthetics
2. conservation
3. values
4. development
5. pressure group
6. wild/wilderness
7. administrative power
8. executive power
9. legislative power
10. preservation
11. exploitation

The students should also seek to place the values expressed by individuals and groups on various continua in order to see how they compare to each other. For example:

Total Natural Beauty — Total Manmade Beauty

X Group A — X Group B — X Group C

This type of continuum can become the basis of discussions concerning value structures and how specific positions taken on specific problems reflect underlying values and beliefs.

LESSON 2: GAME B - THE TRIAL

Rationale:

The second game, "Trial", is intended to illustrate the general process of conflict resolution through civil adjudication. The legal theory involved has been selected because of its current use in environmental law; however, the importance of the game is to illustrate the process of adjudication and not to teach the substantive law involved in this case. Although it is necessary to cover the substantive law of the case in the debriefing of the game, the real value of the game is its illustration of the process of resolution of interpersonalconflict through civil adjudication, and it is this aspect of the game which should be stressed.

Introduction:

Before playing the game "Trial", the students should read the preliminary readings on legal theory included in the Student Manual. The class should discuss the substantive law involved in the game in the reading before playing the game so that everyone knows the legal theories that are being used.

The reading is divided into three parts:

1. The power of courts to review administrative agency actions;
2. The governmental power of eminent domain or condemnation; and
3. The substantive law of nuisance.

Each section is followed by two short lists of questions. The first list is intended to simply require factual recall and therefore review the major points of the reading. The second list consists of several discussion questions which have no correct answer, but which illustrate the type of factual situations in which the legal theory may apply.

Instructions:

1. Give everyone a copy of Scenario #2, which continues the story of Dog Creek Canyon. Note that the Board has decided to use High Life's plan. If the actual decision in Game A was not in favor of High Life, you may want to take a few minutes or days and discuss how political pressure can be used to change administrative decisions. However, if there is a shortage of time, simply take the time to point out that the decision in Game B is not the one reached in Game A.

2. Assign the following roles in order to set up the actual trial:
   a. Judge - runs the trial.
   b. Court Recorder - court clerk keeps all court papers and a record of all testimony and rulings.
   c. A jury panel - the actual jury can be of any number from 7 to 12. The verdict can be unanimous or by any majority figure you want.
   d. Small groups of 3-5 members to represent each of the five parties involved in the litigation:
      1) Wilderness, Inc.
      2) Mining claim owners
      3) High Life Productions
      4) National Forest Service Board
      5) National Park Service

3. The Student Manual contains a brief summary of the legal theories of condemnation, injunction and nuisance. It also contains a chart of the three suits involved in this game. The easiest way to play the game is to try each suit separately, but in succession, using the same judge, recorder/clerk and jury. However, two other options are available. A new judge, recorder/clerk and jury may be selected for each suit, or all three suits may be tried at the same time before the same judge and jury.

   The advantage of selecting new court officials is that it allows more students to participate. The disadvantage is that each official must be retrained as to his function and the jury selection process must be used three times and both tasks will greatly extend the total trial time. The advantage of trying all three cases at the same time is tht it will decrease somewhat the time needed for the trial. However, this option will make the trial itself more complex, and the jury will have a difficult time sorting out what they must decide.

__The Play:__

The game consists of two parts: pretrial and trial. During the pretrial period, the complaints and answers are written and the cases and defenses are prepared for trial. The trial period consists of jury selection, the trial and the verdict. The following chart outlines all the procedures for a single trial. If the trials are to run in succession, only one group needs to complete its pretrial preparation before the trial begins, and the other suits can be prepared while the first trial is in process. If all the trials are to be run at the same time, all pretrial tasks must be done before the trial begins.

Pretrial procedures:

1. Plaintiff prepares a complaint, using the complaint form (see Student Manual).
2. A copy of the complaint is filed with the court clerk and a copy served (given) to each defendant.
3. Each defendant prepares an answer to the complaint (see Student Manual).
4. A copy of the answer is filed with the court clerk and a copy served (given) to the plaintiff and all other defendants.

5. Each group prepares its case for trial by gathering any facts, witnesses, etc., which will prove its points. Since the case is fictitious, each group should be allowed to create any "facts" or "witnesses" it wants. For example, they should have expert witnesses, private studies, etc. which tend to prove their case.

Trial procedures:

1. Select a jury:
   a. The teacher may appoint the jury or simply select a jury panel and allow the plaintiffs and defendents to go through a jury selection option.
   b. If the jury panel process is used, the procedure to use is as follows:
      1) Each prospective juror goes to the witness stand and the plaintiff and defendants can ask him any questions they want. If questioning reveals that the juror will be prejudiced toward one of the parties, that party may request that the juror be excused from jury duty. The judge decides if there is sufficient cause to excuse the juror.
      2) Each plaintiff and defendant has two preemptory challenges where they can demand that a prospective juror be excused even if he is not prejudiced and these challenges cannot be overruled by the judge.
      3) As soon as a full jury is seated, the trial begins and all remaining members of the jury panel are excused.
2. Case presentation:
   a. Opening statement by the plaintiff outlining his case and what he will prove.
   b. Opening statement by each defendant outlining his case and what he will prove.
   c. Plaintiff presents his evidence by witnesses, documents, etc. Defendants can cross-examine all witnesses and examine all documents.
   d. Defendants present their evidence in any order the judge selects. Plaintiff and other defendants can cross-examine all witnesses and examine all documents.
   e. Closing statements by each defendant stating what they believe they have proved.
   f. Closing statements by plaintiff stating what he believes he has proved.
   g. The judge now instructs the jury. These instructions must include the following:
      1) A listing of the points that are in dispute and what they are to decide, including at least the following points for the corresponding suits:
         (a) Wilderness, Inc. vs National Park Service
             National Forest Service
             High Life Productions

            (i) Is the road for a public purpose?
            (ii) Does the road through the Park violate the purpose of the Park?
            (iii) Is the development of the valley by High Life Productions acceptably within the guidelines published by the National Forest Service?
        (b) Mining Claim Owners vs. National Forest Service, High Life Productions
            (i) Is the development for a public purpose?
            (ii) Will the development constitute an unreasonable interference with the Mining Claim Owners' quiet use and enjoyment of their property?
        (c) High Life Productions vs. Mining Claim Owners
            (i) Is the road for a public and not a private purpose?
            (ii) What is the value of the mining claims?
    2) A listing of what the jury can decide to do in each case.
        (a) Grant or deny the injunctions.
        (b) Determine what damages should be awarded to the various plaintiffs and defendants that requested damages in their complaints.
h. The jury now retires to deliberate and reach a verdict.
i. The verdict, when reached, is announced to the class and the game is then debriefed, using the following questions as a guide.

Debriefing:

The goal of the debriefing is a generalized description of the adjudication process. This description should include the parties involved and the advantages and disadvantages of litigation as a technique for the resolution of interpersonal conflicts generally as seen from a civil lawsuit concerning specifically environmental issues.

The following questions and activities are suggested but are not exhaustive of what can be done with the game since the game centers on adjudication generally and not just on the substantive law used in the game.

1. List and define the functions of each party to the adjudication process. The list should include the following parties:
    a. Plaintiff
    b. Defendant
    c. Judge

   d. Jury
   e. Witnesses
   f. Court recorder and court clerk
2. Briefly state the issues involved in the game trial. These issues are the specific points of disagreement. They do not include the underlying conflicting value structures which generated the original conflicts.
3. What are the limits of adjudication imposed by a court trial?
4. What were the legal theories used by the various plaintiffs and defendants to present their position on the various issues?
5. Do the legal theories really cover the problems creating the conflicts?
6. Analyze and evaluate the decisions reached by the jury to see if it was correct by comparing the evidence presented and the legal theories involved.
7. Discuss the following ideas:
   a. The adequacy or inadequacy of the decisions reached to resolve the issues of the case.
   b. The adequace or inadequacy of the decisions reached to resolve the underlying conflicts between the plaintiffs and the defendants because of differences in their philosophical concepts about the use and/or preservation of the environment.
   c. The adequacy or inadequacy of civil litigation to resolve interpersonal conflicts.

To move the debriefing discussion into the area of international conflicts, point out that the adjudication process, although analyzed in terms of the English system in this game, is a basic type of conflict resolution process found in almost all cultures. The parties and procedures vary, but the purpose is the same, i.e. to identify certain specific issues, to present certain information concerning these issues which is pertinent because of an overriding structure of law, and to use the law to sort and weigh the evidence and make decisions on the specific issues.

The students can hypothesize the type of laws and legal procedures needed to resolve international conflicts concerning the environment. Typical conflicts on this broad level include the following:

1. Conflict for certain resources such as tin, iron, oil, etc.
2. Conflict over the use of the oceans, e.g. fishing rights, farming the ocean, etc.

3. Pollution of the environment (air, water, pesticides, etc.) which do not respect natural boundaries.

The discussion should be limited to actual possibilities. If student interest is sufficient a separate study can be made of specific problems and what, if anything, has been done to deal with the problem.

Unit C: Supplemental Enrichment Material

The following three readings are useful as supplementary material for the third unit. They should not be used in place of the simulations, but they are useful as additional exercises to suggest other ways to deal with environmental issues.

The readings are written from the environmentalist point of view, because it is usually this side of the conflict which has the choice of where to join the issue.

The first reading, Choosing the Forum, covers this exact idea, i.e. that there are many other places than the courtroom where environmental conflicts can be resolved. The second reading, Levels of Activity for Action, covers the problems faced by government agencies and organizations when they attempt to control environmental problems. The third reading, Economic and Legislative Abatement, covers the problems faced by legislative bodies when they attempt to exact laws to effectively deal with various pollution problems. Although the list is not exhaustive, the discussion of various legislative answers to the problem of how to control the pollution will aid the students as they attempt to do the final section of the debriefing of the second simulation game.

The readings have not been included in the Student Manual because they are only supplemental.

Supplemental Reading: Choosing the Forum

Decisions with a negative effect on the environment are made by a number of different groups and individuals. For example, in Citizens Comm. for Hudson Valley v Volpe, the following decisions had been made before the court was asked to rule on whether construction of an expressway in the Hudson River should be halted:

1. Congress passed the Federal Highway Act.
2. The New York State Legislature enacted Highway Law providing for the construction of an expressway from Beacon, N.Y., to the Tappan Zee bridge.
3. The New York State Department of Transportation adapted a route that ran in the river for a distance of over four miles, requiring the dumping of almost 10 million cubic yards of fill in the river.
4. The Army Corps of Engineers granted a permit permitting a fill operation to take place, purportedly under the authority of a federal statute.

Environmentalists could have taken action at any one of these decision points. A few might have chosen to intervene before Congress, preferring to attack the expressway routing problem at the national policy-making level. Others might have operated in the context of a statewide political campaign against unneeded or badly routed expressways. Or, a bill that would subject decisions on highway routing to greater public control could have been submitted.

Still others might concentrate on state administrative proceedings regarding highway routing. Or they might have appeared at the public hearings on the environmental effects of proposed federal-aid highway projects called for by certain federal statutes.

Under regulations recently announced by the Secretary of the Army the Corps of Engineers must consider environmental factors in determining whether to grant permits for work in navigable waterways. Public hearings must be held if there is a showing of public interest. Concentrated efforts on these hearings are important because, under the terms of the National Environmental Policy Act, the Corps of Engineers are required to give serious consideration to environmental factors, and must decide against a project if its effect on the environment is severe.

Many lawyers tend to think litigation will solve an environmental problem, but in most cases a victory at any one of several previous decision points is as effective and can usually be achieved at a fraction of litigation's cost.

In determining what avenue to pursue in an environmental cause, the environmentalist should be pragmatic, carefully choosing the forum in which success is most likely, and that will cost the least in time and money. For example, it would not be sensible to expend too much energy in proceedings before a state highway routing agency if that agency is not required by statute to consider environmental factors and has been unreceptive to these arguments in the past.

Public pressure is another effective weapon in the environmentalist cause. Quoting a district engineer of the Army Corps of Engineers on why he denied a dredging permit: "The virtually unanimous opposition to the proposed work as expressed in the protests which were received and as exhaustively presented at the public hearing have convinced me that approval of the application would not be in the public interest."

Adapted from the Environmental Law Handbook.

Supplemental Reading: Levels of Activity for Action

Federal:

Because the market system does not impose pollution costs on polluters, there is little incentive for them to work toward the improvement of environmental quality. As a result of these reasons, there is general agreement, even among business leaders, that some form of governmental intervention is necessary.

In most situations, federal regulation is best suited to the task. National environmental quality standards must be substantially uniform. Otherwise, areas that failed to adopt strict standards would be able to attract industry because the costs of doing business there would be less; this advantage would probably not be offset by the more attractive environmental conditions of the area with stricter standards. The same would be true if pollution charges, rather than regulations, were the mechanism used to abate pollution.

Two other factors also point to the need for leadership from Washington. First, the belief that state and local governments are generally unsuited to considering and establishing innovative new long range policies. Second, as the disposer of the greatest pool of relatively painlessly collected tax surplus in the country; the federal government has the greatest freedom from fiscal constraint in its initiatives.

One problem inherent in giving policymaking authority to the federal government is the huge proliferation of agencies within its bureaucracy. Very often, their policies and the constituencies they represent are opposed; e.g. the Interior Department and the Federal Power Commission on dam sites. Another impediment to effective consideration of environmental issues is the narrow range of concern conferred by statute on most federal agencies.

Fragmentation of federal authority may be improved by the creation of a new "super agency" to coordinate federal environmental programs. The Environmental Protection Agency could perhaps absorb the Federal Water Quality Administration from the Department of Interior, the Air Pollution Control Administration from the Department of Health, Education and Welfare, pesticide control from the Food and Drug Administration, and radiation regulation from the Atomic Energy Commission.

State and Local:

Because of a combination of political and economic factors, it has been difficult to convince state legislatures and local governing bodies to enforce the well-intentioned regulations they pass. Another factor in the control of air and water pollution by state legislation is that most of our main water and air basins overlap several states. Our cities and states do not always encompass complete air and water systems. Therefore even when one local unit eventually decides to take effective action, its efforts may be nullified by its inability to induce similar action by adjacent governmental units in the basin. Consequently any control organization must make provision for the overlapping of political boundaries and the transfer of adequate authority and funds to new and specially created groups.

Regional:

1. River Basin Authorities

A recent article suggests that the most efficient way to control water pollution is to establish river basin authorities with the power and duty to control water quality along an entire stream. The authorities would accomplish this by formulating integrated water quality plans, and owning and operating all treatment plants in the area for municipal and industrial wastes. Such a system could achieve maximum efficiency at minimum unit costs by building large plants in optimum locations. Treatment could be financed by service charges, which would encourage municipalities and industries to find pollution-reducing techniques. The authority might also be able to attract higher quality personnel than state agencies since it could offer higher salaries and would not be bound by restrictive civil service regulations.

One authority argues that the federal government should organize and run the basin authorities. He notes that multistate authorities must be created by compact, a very time-consuming process. Also, multistate agencies tend to escape surveillance by governments of member states; thus, they tend to create their own empires. He also maintains that federal financing of treatment plants is most desirable since only the federal tax structure, which relies on income tax, is not regressive. State and local revenues are derived largely from sales and property taxes, which tend to place a heavier burden on the poor.

In the United States the Delaware River Basin Commission is the only authority in which the federal government is a principal party. Other members include the governors of the four basin states: New York, New Jersey, Pennsylvania, and Delaware.

Regional water quality management has been extremely effective in the Ruhr Valley of Germany. Although the Ruhr Basin is one of the most heavily industrialized areas in the world, much of the water is available for recreational uses---swimming, boating, and fishing. A group of cooperative associations, made up of local governments, coal mines, and industries, control waste disposal, water supply, flood control, and land and mine drainage. The cooperatives have effectively used their broad powers employing a number of techniques designed to produce efficient treatment procedures and maximum esthetic and recreational benefits.

Planning Authorities:

Regional planning agencies concerned with more than a single facet of environmental quality and armed with adequate enforcement powers have long been advocated by economists and environmental planners. In the past few years, a few agencies have emerged that could begin to approach this ideal. One of them is the Tahoe Regional Planning Agency, created by an interstate compact between California and Nevada.

The Tahoe Regional Planning Agency is required to develop a comprehensive plan for the Tahoe Basin, including land use, transportation, conservation, recreation, and public services and facilities plans. To effectuate the plan, the agency may issue regulations on water purity and quality, earth moving, waterfront development, outdoor advertising, watershed and flood plain protection, and air pollution. The agency has power to enforce its rules by court action.

So far, the agency has been hampered in adopting its plan by a court action and has been limited in using its powers. It has been criticized for allowing piecemeal development to continue. Although it used its authority to halt construction on two massive vacation developments, its interim plan was a sad disappointment to conservationists.

There are the beginnings of similar agencies in Maine, Illinois and New York.

Adapted from the Environmental Law Handbook.

Supplemental Reading: Economic and Legislative Abatement

An important phenomenon to consider is what economists call "externalities," i.e., environmental damage or costs generated by on person or firm, but paid for by outsiders. Smoke emitted by a factory causes damage to residents of the community, but, since the factory does not pay for it, there is no economic incentive to control the emission.

Externalities result in artificially low prices for goods with high pollution costs. A Pittsburgh business man stated the essence of the proglem: "If I correct my plant problems, but my competitor doesn't, that company has a competitive advantage. I have committed huge sums; they haven't. In fairness to my stockholders, therefore, I can't make the first move.....I see no hope except for legislation."

Economists have identified three types of possible solutions. One method is regulating the imposition of laws or rules requiring or forbidding certain conduct. Another is subsidies, i.e., direct payments or tax relief given to induce the recipient to combat pollution. A third alternative is pollution charges or taxes, by which a fee or charge is levied on certain conduct. These remedies are not mutually exclusive and may sometimes by combined effectively.

Regulation:

The least efficient of the three pollution-abatement alternatives is across-the-board regulation. This conclusion seems to be supported because pollution regulations have been in effect for years, and yet pollution continues to increase. Inadequate enforcement powers and unenthusiastic envorcement activities are largely responsible.

Pollution control regulations are inadequately enforced because invariably they are either expensive and cumbersome to administer, or grossly unfair. For example, if a regulating authority decrees that all polluters must reduce water pollution by five percent, industries and municipalities that were already spending substantial amounts on pollution control could argue convincingly that firms and cities that had spent little or nothing should bear the main burden of over-all pollution control until polluters' expenditures were roughly equal. Also, it does not cost all firms the same to reduce pollution. For example, if a furniture factory spends only one-third as much as a cannery to reduce its pollution by five percent, it is neither fair nor economical to require both to reduce pollution by that amount. Thus, across-the-board regulation is rarely employed.

An alternative form of regulation is to establish effluent standards tailored to each polluter for each pollution problem. Individual regulations, however, are expensive to administer efficiently: "It is an administratively impossible task to examine each waste source (plant or city) and to issue exact orders specifying how it should treat its wastes and what measures it should take under all possible circumstances, and then to check up on this performance with any thoroughness."

Indirect regulation often proves effective. For example, the government could refuse to buy products unless they are made from easily recycled materials. Similarly, it can refuse to accept contract bids from firms that do not maintain certain waste disposal standards.

Subsidies:

Subsidies comprise another method of abating pollution. Subsidies can take many forms: tax credits (allowing an incentive tax credit for part of the costs of providing waste treatment facilities), other tax advantages (permitting an accelerated five-year amortization of certain pollution control facilities), and direct payments (authorizing federal grants for local water pollution control efforts).

Subsidies are often favored by municipalities and industries, since they cause no increases in prices to consumers or taxes to local citizens. Most economists, however, believe that subsidy schemes cannot work. They note that subsidies would be inefficient and unfair because it costs different industries different amounts to eliminate a given percentage of effluent. If a subsidy of a certain sum per ton of effluent withheld were offered, some industries would make money and others would lose. A fixed subsidy per ton of waste withheld might also encourage blackmail by firms who would produce waste materials and then treat them. On the other hand, if a pollution abatement authority would establish a system whereby those polluters who efficiently treated wastes received the largest subsidies, the problems of individualized standards would again come into play.

Charges or Taxes:

Many economists consider effluent charges or taxes the most efficient way to abate pollution. A recent study of cleanup costs for the Delaware River estuary concluded that the task would cost 40 percent less if pollution charges rather than regulation were used. Charging or taxing pollution encourages each polluter to decide how much pollution abatement it should institute in light of the amount it will be forced to pay. Since each polluter will settle on an optimum point, the total direct cost to taxpayers of eliminating pollution will be minimized. Pollution charges is one of the methods used to achieve high water quality in the Ruhr Valley in West Germany and will soon be used on the Great Miami River in Ohio. Several bills have been introduced in Congress to tax activities that degrade the environment. (Taxing nonreturnable bottles and a proposed tax on leaded gasoline.)

The higher the charge on pollutants the more likely the industry will find it more profitable to control its wastes than to pollute the environment yet by not setting an absolute standard of clean output industries will still be allowed to develop.

Adapted from the Environmental Law Handbook.

UNIT D

The Creation of International Law

Materials:

Assignments included in
Student Manual, pp. 64-74.

Rationale:

Unit D is intended to focus attention on how the rules or law which support any adjudication system on an international level are created. The students assume the role of a representative of a country and attempt to negotiate a general treaty to guide international relations in those areas connected with the oceans and their use.

In the real world the processes used to create international law are extremely complex and often ineffective with the usual result that war and sheer power have become the real creators of international law. There are, however, other alternatives available for the resolution of international conflicts and this fourth unit is intended to explore some aspects of one of these alternatives, namely the creation of a viable international law which can eventually be used to support some type of international adjudication system.

Introduction:

The unit consists of three activities. First, the students select the country they want to represent and prepare a basic research paper on this country. Second, the students, now playing the role of representative of their country, meet as a geographic region and attempt to develop a proposed draft treaty which the region will present during the third stage of the activity, namely, a general world conference on the oceans.

LESSON 1: STUDENT REPORTS

The Student Manual contains the assignment sheet. The assignment lists 39 countries, but more countries can be easily added to the list if the class has more than 39 students available to participate in the assignment. The teacher, however, must be sure that all the major world powers are represented and that there is also a general distribution of countries geographically, economically and politically. In addition, the treaty negotiation periods will be greatly strengthened if current political conflicts are made a part of the game, as for example having two strong leaders represent Egypt and Israel, or India and Pakistan.

The best place to start the research is with an encyclopedia and an atlas.

The papers should be collected, graded and returned to the students before the regional conferences are begun. When grading the reports be sure that each person actually attempted to relate the country he represents to the issues. There will be a tendency simply to turn in a factual summary of an encyclopedia article. If necessary, have those students that had not really attempted to analyze how their country would stand on the issues re-do the assignment, rather than simply giving them a failing grade.

LESSON 2: GEOGRAPHIC REGIONAL CONFERENCES

This second Lesson is intended to create a type of false unity. Most of the regions will be able to create a proposed draft treaty and although there will be some conflict between certain nations because of class pressure and a general desire to complete the assignment and get a grade, few regions ever fail to develop what appears to be a general treaty acceptable to all.

It is extremely important to have these proposed treaties distributed to all the countries before the third lesson, the general conference. The general distribution, however, must be after all regional meetings have ended. In this way, each person will have an opportunity to examine other treaties and compare these treaties to the one their group developed.

While the regions are meeting, move around the classroom and help each group to clarify what should go into its treaty. Encourage each representative to stand up for his country's interest and if necessary take the major power representatives aside and remind them of the true power and needs of their country in the real world.

LESSON 3: WORLD OCEAN CONFERENCE

Arrange the classroom to represent a type of conference room. The best arrangement is a large circle or a series of semi-circles with a place for the moderator in front of the semi-circles. The semi-circle plan is usually more formal and lends itself to a type of formal debate with each representative standing as he addresses the conference. The full circle arrangement is much less formal, but will allow a greater exchange of ideas, especially if the meeting is run informally as a work session.

Try to remain out of the conference as much as possible. Remind the class of the real need for an international law for the oceans and that aside from the fact that every nation has only one vote, all other procedures, including the agenda, the standing rules, etc., are up to them to determine as well as the specific content of the treaty.

Keep a detailed log of what happens during the conference. Look specifically for any countries that find they have common interests, and those countries that appear to be opposites. Also note any uses of power, such as threats to walk out of the conference, to refuse to ratify the treaty, etc. All of these behaviors have their counterpart in the real world and will make interesting examples to discuss in the debriefing period.

The Conference itself should last until a treaty is written and signed, or until the Conference has become hopelessly deadlocked. If the students begin to lose interest in the Conference, relate this phenomenon to the difficulty of international negotiations and the recurring problem of the impatience of various nations when they attempt to reconcile various real, deep-seated differences. Perhaps the best current international negotiation that parallels this problem is the current Paris peace talks on Vietnam and the current frustration in this country with what appears to be simply an international game of propaganda.

Debriefing Unit D: International Law

In debriefing Unit D with the class the teacher should follow two paths. First the questions which follow represent starting points for a general discussion on the creation of international law and adjudication systems, and to this end they should be used with whatever additions and modifications the teacher feels are necessary.

Second, the activities covered in this unit are a type of model of how nations behave when they find that they must deal with other nations. No attempt is made to include in the debriefing questions a comprehensive analysis procedure for international relations. Instead, the teacher should review the game with the students and help them to see how the game reflects the way nations act in the real world and the consequences of such action. For example, every time the game has been played by the author with a class, the students have been able to gain a much greater appreciation for the antagonism between the developed and undeveloped nations of the world because generally the super powers, the U.S. and the U.S.S.R., and the other great powers have ended up dictating at least certain portions of the treaty and the underdeveloped nations have had no successful way to stop this dictation. The teacher therefore should carefully watch and note behaviors as the game moves through its various stages and use these notes to remember and analyze why they behaved as they did and what other alternatives were available.

Debriefing questions:

1. What were the major internal problems which had to be resolved before a workable position could be established within each individual country? (e.g. fish and oil interests vs national security objectives)

2. What were the problems involved in playing your own role as representative of a country?

3. What similarities and differences were found in your regions? In other regions?

4. Why were or were not unified positions or proposals possible from each region?

5. What countries found they had interests in common? What interests?

6. What international problems were found to actually exist?

7. What international problems were originally thought to exist but were actually easily resolved?

8. If a treaty was adopted, what compromises had to be made to secure its adoption?

9. If no treaty is developed, why did the conference fail?

10. If a treaty was adopted, what arguments will develop back in your individual nation over the ratification?

11. How can the arguments of #10 be resolved?

12. What will happen if one or more of the non-sea powers refuse to ratify the treaty?

13. What will happen if one of the major sea powers (England, U.S., U.S.S.R., Japan) refuse to ratify the treaty?

14. What will happen if treaty or nontreaty signatories decide to break the treaty? Is there a technique of adjudication and enforcement of adjudicated decisions?

15. If an international organization is to supervise some portion of the ocean under the treaty, what powers and what weaknesses are apparent in that organization as established?

16.. How were compromises on all levels of the game resolved?

17. What about a system of compulsory arbitration of issues arising under the treaty?

APPENDIX

Assignment: Oceans

1. For the topic which you are assigned you should:
   a. State the issue around which the debate centers; simply, "What is the issue?"
   b. List those who are party to the issue. (What countries are involved?)
   c. State the objectives and goals of the countries involved.
   d. Propose a way in which the problem(s) between the countries involved in the dispute could be resolved.
   e. Cite what you would feel would be appropriate fines and/or penalties to be used against countries which would not agree to be part of any negotiations involving the oceans.

2. You should work in your group to answer all of the questions above. You should also:
   a. Propose a workable solution to the development of ocean resources.
   b. Propose a workable division of ocean resources.

3. Topics. Your group of students should not deviate from its assigned topics. It is suggested that you use the Readers' Guide to Periodic Literature to answer the above questions.

Topics

Seabeds
Offshore Drilling
Ocean Dumping
Sovereignity of the Sea
Offshore Limits
Straits and Oceans
Continental Shelf
The Exploitation of the Seabed
"Freedom of the Seas"
Fishing Rights (Chile, Ecuador, Peru)
"Three Mile" Limit

Environmental Conflicts

Explanation: Your group should deal only with a single issue. Your research should be as complete as time allows. You may have to use some time out of class to complete this assignment. In doing the assignment you should answer all of the questions.

Questions:

1. What specifically is/was the issue involved?
2. What is the more generalized issue and the various contributing circumstances?
3. What specific people or groups are/were involved in the conflict?
4. What is the general ethic or attitude involved on the part of the parties on both sides of the conflict? What would each of the parties define as progress?
5. How did each of the parties involved in the conflict present their position to the public?
6. What is the state or stage of the conflict at present?

Issues:

Historic

1. John Muir vs. Hetch-Hetchy
2. Timber, Homestead and Mining Acts
3. California Hydraulic Mining

Recent

1. Miami Airport - Everglades
2. Four Corners Power Complex
3. Santa Barbara Oil - GOO
4. Peripheral Canal
5. Baldwin Channel
6. Save the Bay (BCDC)
7. Las Trampas Park
8. Bollinger Canyon
9. Alaskan Pipeline
10. Fishing Rights
11. Tahoe Basin

Extra-Credit

1. Martinez-Livermore Bicycle Trail

If you have a specific conflict you would like to investigate, check with the instructor.

SOURCES

The following sources will provide materials of a general or specific nature upon request. It is often advisable to have the students make contacts with these sources. The list is not complete, and contacts with local and state groups should be made.

Scientists' Institute for Public Information
30 E. 68th Street
New York, New York 10021

The Nature Conservance
1522 K Street, N.W.
Washington, D.C. 20005

The National Wildlife Federation
1412 16th Street, N.W.
Washington, D.C. 20036

National Audubon Society
1130 5th Avenue
New York, New York 10028

The Sierra Club
1050 Mills Tower
San Francisco, California 94104

The Conservation Foundation
1250 Connecticut Avenue, N.W.
Washington, D.D. 20036

The Wilderness Society
729 15th Street, N.W.
Washington, D.C. 20005

National Parks Association
1701 18th Street, N.W.
Washington, D.C. 20009

International Union for Conservation of
Nature and Natural Resources
2000 P. Street, N.W.
Washington, D.C. 20006

The Izaak Walton League of America
1326 Waukegan Road
Glenview, Illinois 60025

John Muir Institute for Environmental Studies
451 Pacific Avenue
San Francisco, California 94133
or, P.O. Box 11
Cedar Crest, New Mexico 87008

Citizens League Against the Sonic Boom
19 Appleton Street
Cowbridge, Massachusetts 02138

Planned Parenthood/World Population
515 Madison Avenue
New York, New York 10022

Friends of the Earth (FOE)
30 East 42nd Street
New York, New York 10017

Zero Population Growth (ZPG)
367 State Street
Los Altos, California 94022

Population Reference Bureau
1755 Massachusetts Avenue, N.W.
Washington, D.C. 20036

Citizens Advisory Committee on Environmental Quality
1700 Pennsylvania Avenue, N.W., Room 280
Washington, D.C. 20006

Conservation Law Society of America
1500 Mills Tower
200 Bush Street
San Francisco, California 94104

Northern California Committee for Environmental Information
P. O. Box 761
Berkeley, California 94701

Environmental Issues
Group Assignment, Unit B

ROOTS OF CONSERVATION

Explanation: Your group will deal with a part of the history of the conservation movement in the United States. The purpose of the assignment is to develop a picture of the people, places, organizations and events that are part of this movement.

Questions: Answer the questions which apply to your subject.

1. What is the span of time you are dealing with? Be specific.
2. What person or persons are involved? How well organized are they? How do they make their view(s) known to the public? In the case of an individual, are there any quotations which you find interesting, prophetic, antagonistic, beautiful, etc.?
3. Is the interest in a specific issue or are the interests more generalized?
4. What is the particular ethic involved? What is the basis or background of this ethic?
5. How would the person or group define progress?
6. How would you defend the conservation of a local area with which you are familiar? What would be the basis of this defense.
7. Extra Credit: What environmental group deals with similar ideas, events or places today? What methods are used? What is the degree of success?

Topics

John James Audubon
Thomas Cole
Frances Parkman
George Catlin
Henry David Thoreau
Ralph Waldo Emerson
Samuel Hammond
George Perkins Marsh
Nathan P. Langford
Izaak Walton
David McClure
John Muir
Gifford Pinchot
Theodore Roosevelt
Yosemite Valley
Yellowstone
Adirondack Mountains
Sequoia
Cape Cod

Glacier National Park
Grand Canyon
Muir Woods
Tennessee Valley
Sierra Club
National Audubon Society
Wilderness Society
Boy Scouts of America
Forest Management Act
Clean Air Act (1963)
Coal Lands Law (1873)
Forest Reserve Act
White House Conference on Conservation, 1906
Wilderness Act
Fish and Wildlife Act (1956)
Bureau of Indian Affairs
Migratory Bird Conservation Act(s)
Rivers and Harbors Act
Soil Conservation Act (1935)

FIELD TRIP: MINERAL KING WILDERNESS AREA

It is recommended that the class make at least one field trip during the unit. It would be of particular value if arrangements could be made to compare man's use of the land (his modifications or proposed modifications) to the land left in its natural state.

The field trip will provide the students with a variety of experiences. It will be their task to complete a menu for the three days and assemble all the necessary cooking equipment. They will have to provide camping equipment for themselves. For students who have had limited experience, the field trip will provide basic camping and hiking knowledge, and hopefully will result in further trips into the wilderness on the student's own part.

The teachers of the pilot class feel that regardless of what area of the United States one resides in, similar trips can and should be conducted as an integral part of this class. The conflict over development of resources is controversial and this controversy should not be avoided---it must be part of the class. The experience of seeing areas in dispute is invaluable.

For the pilot class, arrangements were made to visit the Mineral King Valley, a national game refuge in Sequoia National Park. Mineral King is a high mountain valley that presently attracts a number of campers (under thirty campsites) and back-packers who use the valley as a starting point for trips into the back country of the Sierra. Walt Disney Productions has designed an extensive all-year resort which will accomodate up to 8,500 people per day in the valley at the peak of the ski season. The Sierra Club has fought this plan for the valley on the grounds that the ski resort will destroy the natural wilderness of the valley and require an all-year highway that must be built across a portion of Sequoia National Park.

The Pilot Class Field Trip

1. San Luis Dam. A stop at this dam site allowed the students to see a portion of the California Water Project. The need for water, water preservation, electricity, irrigation and an unpolluted supply of water had been a topic discussed in class.

2. Sequoia National Park. Within Sequoia National Park are a number of stands of virgin redwood, although much of the park has been logged. The students can compare the size and beauty of the virgin trees with that of the second and third growth trees.

3. Mineral King. The greatest amount of time is allotted to the Mineral King area which allows for the exploration of a near-wilderness area. The students should spend time searching for the examples of elements and the relationships within the valley that make up the ecosystem of the valley. On a day hike, the students will have the opportunity to view the changes that take place in vegetation as they hike from 7000 feet to 10,000 feet elevation.

Critique of the Field Trip

All students who attended the field trip should write an essay in which they explain their experiences on the trip. They should include references to:

1. San Luis Dam - California Water Project
2. Sequoia National Park
3. Mineral King

The class lesson which brings out the conflict over the use of the Mineral King area is also intended as a debriefing exercise for the field trip. This lesson is of major importance to Unit B and is a lead-in to Unit C. It is strongly suggested that the teacher develop a similar lesson that is current and deals with a conflict that is local and to which the students can relate.

BIBLIOGRAPHY

Books and Articles

Brecher, Joseph J., and Nestle, Manual E. Environmental Law Handbook: Continuing Education for the Bar. Berkeley, Calif., 1970.

Brown, Harrison. The Challenge of Man's Future. New York: Viking Press, 1954.

DeBell, Garrett (ed.). The Environmental Handbook. New York: Ballantine, 1970.

Highsmith, Richard M., Jensen, J. Granville, and Rudd, Robert D. Conservation in the United States. 2nd ed. Chicago: Rand McNally & Company, 1969.

Kownslar, Allan O., and Frizzle, Donald B. Discovering American History. New York: Holt, Rinehart and Winston, Inc., 1967.

McClosky, Michael, and Hills, Albert. Mineral King: Mass Recreation Versus Park Protection in the Sierra. San Francisco: Sierra Club, 1971.

"Mineral King Offers Recreational Potentials Equal to Any in the United States", Disneynews, MK-3 (revised).

Morison, Samuel Eliot. The Oxford History of the American People. New York: Oxford University Press, 1965.

Nash, Roderick. Wilderness and the American Mind. New Haven: Yale University Press, 1967.

Reich, Charles A. The Greening of America. New York: Random House, 1970.

Roszak, Theodore. The Making of A Counter Culture. Garden City, New Hork: Anchor Books, 1969.

Womack, James G. Discovering the Structure of the Social Sciences. New York: Benziger Brothers, 1966.

You and the Law. Pleasantville, N.Y.: Reader's Digest Association, Inc., 1971.

Films

Changes in Eco-Systems. Ecology and Man Series - Set I. New York: McGraw-Hill Text Films.

Glen Canyon. Sierra Club. Distributed through Association Films, Inc., 25358 Cypress Ave., Hayward, Calif. 94544.

Introduction to Ecology. Ecology and Man Series - Set I. New York: McGraw-Hill Text Films.

Pave It and Paint It Green. EMC Sales Film #7699. U.C. Extension Media Center.

The Real West. Contra Costa County Educational Media Center.

The Redwoods. Sierra Club. Distributed through Association Films, Inc. (See above.)

The Two Yosemites. Sierra Club. Distributed through Association Films, Inc. (See above.)

The Tragedy of the Commons. King Screen Productions. Distributed through Modern Film Rentals, 1212 Avenue of the Americas, New York, N. Y. 10036

ED 073032

DEC 6 1972

ENVIRONMENTAL ISSUES CONFLICT UNIT

STUDENT BOOK

Written by:

Richard A. Fagerstrom
Bruce Borad

The materials herein are part of the work of the Diablo Valley Education Project in Contra Costa County, California, an affiliate of the Center for War/Peace Studies. They are available for use in the Mt. Diablo Unified School District, which co-operated in their development. Copies for use elsewhere may be obtained for limited testing purposes when permission for such use is granted by the DVEP. Such requests should be forwarded to:

Diablo Valley Education Project
50 Vashell Way
Orinda, California 94563

© 1972 Center for War/Peace Studies of the New York Friends Group, Inc.

218 East Eighteenth Street
New York, N.Y. 10003

SO 005 402

ED 073032

PERMISSION TO REPRODUCE THIS COPY RIGHTED MATERIAL HAS BEEN GRANTED BY
Robert E. Freeman
TO ERIC AND ORGANIZATIONS OPERATING UNDER AGREEMENTS WITH THE U.S. OFFICE OF EDUCATION. FURTHER REPRODUCTION OUTSIDE THE ERIC SYSTEM REQUIRES PERMISSION OF THE COPYRIGHT OWNER

ENVIRONMENTAL ISSUES CONFLICT UNIT

Student Book

ED 073032

ENVIRONMENTAL ISSUES CONFLICT UNIT

Student Book

Written by:

Richard A. Fagerstrom
Bruce Borad

The materials herein are part of the work of the Diablo Valley Education Project in Contra Costa County, California, an affiliate of the Center for War/Peace Studies. They are available for use in the Mt. Diablo Unified School District, which co-operated in their development. Copies for use elsewhere may be obtained for limited testing purposes when permission for such use is granted by the DVEP. Such requests should be forwarded to:

Diablo Valley Education Project
50 Vashell Way
Orinda, California 94563

© 1972 Center for War/Peace Studies of the New York Friends Group, Inc.
218 East Eighteenth Street
New York, N. Y. 10003

TABLE OF CONTENTS

Unit A: Interdependence of Man and his Environment 1

Lesson 1: Basic Concepts and Vocabulary of Ecology. . 3
Lesson 2: Small Group Assignment - Ecological Problems. 4
Lesson 3: Man's Modification of the Environment . . . 6
Lesson 4: Man's Inadequate Assumptions About His Environment 7

Readings for Unit A:

The Challenge of Mans' Future 9
The Tragedy of the Commons. 14
Production Process Flow Chart 24

Unit B: In Conflict. 27

Lesson 1: A Conflict. 27
Lesson 2: The American Frontier 28
Lesson 3: In Conflict 29
Lesson 4: Toward An Ethic 29
Lesson 5: Another Ethic 30
Lesson 6: Another Look. 30
Lesson 7: Mineral King. 30

Readings for Unit B:

A Comparison of Ethics. 31
Mineral King. 35
Disneynews. 47

Unit C: Adjudication As A Method of Conflict Resolution. . 51

Lesson 1: The Decision. 51
Lesson 2: The Trial 55
Court Review of Administrative Actions. . . 55
Condemnation. 57
Nuisance. 57

Unit D: The Creation of International Law. 64

Lesson 1: Student Reports 64
Lesson 2: Geographic Regional Conferences 66
Lesson 3: World Ocean Conference. 71

Assignment: Oceans. 72

ENVIRONMENTAL ISSUES

UNIT A

Interdependence of Man and His Environment

To the Student: Over the next few weeks you will be exploring a variety of concepts related to how man relates to his environment. You will have an opportunity to deal with issues in your own community as well as issues which are statewide and national in their scope. The last unit of this study will familiarize you with the problems man has in resolving environmental problems at the international level.

Each unit of study is problem-centered and brings out problems that man has in learning to get along with his physical environment. In his struggle to survive, man has found it necessary to deal also with his fellow man. This, man has done with varying degrees of success. At worst he makes war; at best he lives in harmony. The last two units of this study look at some processes which man may employ to resolve conflicts. Conflict resolution is the major concept to keep in mind as you work with this study.

Your teacher will attempt to provide you with the opportunity to find the issues over which conflict arises. You will be asked to do research yourself to see how and why people differ over an issue. You will also be asked to share your ideas with your fellow students. You should consider the number of ways man may resolve his conflicts. This study deals with only the areas of mediation and the adjudication process as means to resolve disputes.

If you are asked to be able to do something in the assignments, you should make every attempt to do what is asked, but also be able to exchange your ideas with your fellow students. The free flow and exchange of ideas is an important part of your education. Your teacher will try to have a number of small group meetings to help you exchange ideas with others. These small group meetings are called "seminars".

ENVIRONMENTAL ISSUES

UNIT A

LESSON 1: BASIC CONCEPTS AND VOCABULARY OF ECOLOGY

This first lesson is intended to give you a basic understanding of ecological interrelationships to be found in the environment. The study of ecology itself is the study of the relationships among plants and their associated animals and the relationships between them and their environments. Rarely would the ecologist see a single plant or a single animal; he must look at them together and study their relationships.

In class you will see two filmstrips dealing with basic ecology. The first filmstrip is entitled "Introduction to Ecology". This filmstrip will explore:

a. energy as the source that runs all ecosystems;
b. the transformation and flow of energy;
c. primary, secondary and climax producers and consumers;
d. limiting factors of an ecosystem;
e. ecosystems in constant change; and
f. man-made changes in ecosystems.

From this filmstrip you should define and give examples of these terms:

a. consumer
b. producer
c. food chain
d. food web
e. decomposers
f. organic life
g. inorganic materials and energy
h. ecosystem (changes in)
i. pyramid of life
j. biome

The second filmstrip is entitled "Changes in Ecosystems", and it will explore:

a. dynamic life in ecosystems;
b. geological changes that affect ecosystems;
c. succession of life within an ecosystem;
d. the interlocking nature of changes (why species dwindle or flourish); and
e. the changes man has made in ecosystems, the ignorance of man toward the environment.

From this second filmstrip you should define and give examples of these terms:

a. living (dynamic) organisms
b. geological changes
c. sandbar, salt marsh, fresh water pond
d. a man-made change in an ecosystem
e. climax vegetation

Assignment: Food Chain/Food Web

1. Construct a four-element food chain and a twelve-element food web; and
2. Describe or show how the food web would be disrupted by the subtraction of one or more animals or plants.
3. Prepare to explain your food chain and food web to the rest of the students in your class.

After you have discussed the food chains and food webs, the next stage in understanding the relationships between plants and animals and how they interrelate in the environment would be to formulate a number of generalizations. An example would be:

> Variation in any part of a food chain will affect all elements in the food chain.

You may also attempt to formulate and prove a number of hypotheses as to:

1. man's place in the environment, and
2. changes in ecosystems.

LESSON 2: SMALL GROUP ASSIGNMENT - ECOLOGICAL PROBLEMS

In our assessment of the quality of life today, we find that we have altered and often misused the environment. In our effort to satisfy our needs we have paid a great deal of attention to our ability to produce goods. We have until recently ignored the effects of modern production of the goods we desire. In this lesson you will be asked to look into one problem related to how we have treated our natural environment.

You should present your findings to the class orally or visually (a collage, a mobile, poster, or a bulletin board). Your presentation should:

1. Define the problem.
2. State the causes of the problem.
3. State the current effects of the problem.
4. State the predicted effects of the problem.
5. Rate the potential ability of man to resolve the problem.

You will be asked to play the role of evaluator and critic. As such you will evaluate the work of the other groups that have prepared the assignment. You might consider the five points above, and how well each of the points have been dealt with. If you have information that you could add to their presentations, it might be quite valuable to all of your fellow students. You might also remember that constructive criticism may be positive as well as negative.

Class Reports: Ecological Problems

Critique: As you come to the end of this lesson, you should consider each of the reports in terms of how people are affected by the problems on the local, state, national and international levels. In particular, which of the problems affect your locale---how, and why?

It may be useful for you to consider the following questions:

1. Who says there is a problem and how are they answered?
2. How has the problem manifested itself---is it a localized problem or larger in scope?
3. Is a disaster imminent?
4. What people or agencies can be expected to react in the case of a particular problem?
5. What needs of what groups are in conflict in regard to the problem?
   Examples:
   a. The desires of those who wish to water ski and those who want clear water.
   b. Those who demand that world population be reduced and those who have religious tenets that disallow birth control.
   c. Those who have a desire to develop resources and those who wish to preserve resources.

LESSON 3: MAN'S MODIFICATION OF THE ENVIRONMENT*

Reading: Brown, Harrison.
The Challenge of Mans' Future,
pp. 14-22.

The reading might be considered a mini-history of man's experience on earth. There may be similarities to the area in which you reside. The selection was written in the early 1950's, before ecology and ecological issues became popular---possibly they have been important to men longer than we suspect. Can you note various factors that cause fundamental changes in the way people lived?

After you have completed the reading, you should write five to ten questions related to it that you would like discussed in class.

Some ideas from the reading you might consider are:

1. Early man and the extent of his population.
2. Factors which allow for the increase or decrease in human population.
3. The concept of quality of life---in relation to numbers, technology and resources.
4. Interdependence created by rising population and technology and shrinking resources.

*Note: The reading for this Lesson is reprinted on pages 9-13.

As you complete this lesson, you should attempt to state five generalizations about the life in the valley as time passed and change took place. A generalization is a broad, inclusive statement; it should contain no specific references, and it should be true. Examples:

1. Technology allows the population to increase as the utilization of resources becomes more widespread.
2. As a civilization modernizes it becomes necessary to specialize, and in doing so people become more efficient in their ability to use resources.

LESSON 4: MAN'S INADEQUATE ASSUMPTIONS ABOUT HIS ENVIRONMENT*

Reading #1: Hardin, Garrett. The Tragedy of the Commons, from DeBell, Garrett, ed. The Environmental Handbook, pp. 31-49.
Reading #2: The Environmental Law Handbook. Chart: Production Process Flow Chart, pp. 12-17.

The first reading you will work with in this lesson is quite difficult; however, it contains a number of useful ideas if one is to examine how and why people behave as they do toward the environment. The reading deals with political, economic and legal assumptions (attitudes) people have about the environment. It is due to these attitudes that conflict arises. The reading is divided into three sections:

1. Part I deals with man's attitude that technology can solve his problems.
2. Part II covers public property that is open to exploitation by all.
3. Part III concerns private property over which the owner has complete control and rights of exploitation.

The second reading in the lesson introduces you to some ideas related to the production of material goods, and some of the costs of that production. Before you read on, you might for a moment consider your role as a consumer: What do you buy?

*Note: The readings for this Lesson are reprinted on pages 14-26.

What is given to you? What do you have and what do you have that you don't use very often? What do you discard each day? Keep these questions in mind.

After you finish the reading and your analysis of the flow chart, you will be asked to consider:

1. From the reading:
    a. The earth as a closed system without the capability of gaining more of necessary resources or the capability of getting rid of unwanted residual products.
    b. Economic theories are often predicated on the earth as an open system with unlimited resources and depositories for waste.
    c. These economic understandings transcend nation/state ideologies.
    d. Economic values do not account for aesthetic and human values.
    e. On a purely economic level, pollution of the environment is not as costly or as serious as on an aesthetic or social level.
2. From the flow chart:
    a. An oral explanation of the flow chart.
    b. What are residual and dissipated pollutants?
    c. What are their effects on the quality of life?
    d. A modification of the flow chart to allow for a more satisfactory quality of life.
    e. The construction of a production process flow chart for a particular industry in the community.
    f. Identify possible conflicts between need for energy to obtain food, heat, shelter, etc. and pollution of environment.

Two readings have been omitted for reproduction purposes. They are:

(Lesson 3)
Brown, Harrison. The Challenge of Man's Future, pp. 14-22.

(Lesson 4, reading 1)
Hardin, Garrett. The Tragedy of the Commons, from De Bell, Garrett, ed. The Environmental Handbook, pp.31-49.

PRODUCTION PROCESS FLOW CHART

The price of environmental quality is very high. *Life* magazine reports that it would cost the United States $40 billion annually 'just to hold the line against further pollution; many times that much would be needed initially to clean up damage from the past'.

Even if consumers and taxpayers decide to foot the bill, there will be formidable obstacles. A number of assumptions on the way the economy works, once considered eminently sound, will have to be discarded. Furthermore, economic institutions now contain a built-in impetus to environmental deterioration. But, most important, a decent environment can be achieved only with the sacrifice of many of the symbols of affluence.

It is interesting to note that competing economic systems also do not appear to be successful in coping with the demands of environmental quality. The Soviet Union has been experiencing the same difficulties. An article in *Pravda* cited widespread pollution of many Russian and Siberian rivers. Soviet authorities recently announced a crackdown on industries that have been polluting the Volga. Lake Baikal, one of the natural wonders of the world, is well on the way to becoming a dead sea, like Lake Erie. The Japanese, a people long noted for their ability to live in harmony with nature, have experienced some of the worst smog outbreaks. Recently, an enterprising Japanese manufacturer began marketing a portable, clean generator that can provide temporary relief for irritated lungs.

Inadequate Assumptions

The earth is, for all practical purposes, a closed system. That is, 'the outputs of all parts of the system are linked to the inputs of other parts. There are no inputs from outside and no outputs to the outside! There can be no significant inputs or outputs from space. The only inputs from outside is in the form of energy, primarily sunlight.

The implications of the closed earth concept are startling.

' In an economy which is closed (no imports or exports) and where there is no net accumulation of stocks (plant, equipment, inventories, consumer durables, or residential buildings), the amount of residuals which is inserted into the natural environment must be approximately equal to the weight of basic fuels, foods, and raw materials entering the processing and production system, plus oxygen taken from the atmosphere. This result, while obvious upon reflection, leads to the rather striking corollary that residuals disposal -- in terms of sheer tonnage -- is an even larger operation than basic materials production.

The materials flow diagram presented below presents a schematic flow of materials through the production process. The solid arrows pointing away from the boxes represent unwanted residuals (pollution).

At present, economic success is measured by the volume of materials that flow through the production process - the amount of 'throughput'. This measure is implausible in a closed economy with limited sources of raw materials and a finite reservoir into which residuals can be dumped. Because the system is closed, increased production and consumption should be looked on with disfavor. The measure of success should be 'the nature, extent, quality, and complexity of the total capital stock, including in this the state of the human bodies and minds included in the system. Any technological change which results in the maintenance of a given total stock with a lessened throughput (that is, less production and consumption) is clearly a gain.'

Gross national product, the economic indicator most often used as a measure of growth, has come under frequent attack by economists who recognize the folly of unlimited growth. That indicator fails to account for negative goods and services, such as air pollution, released while producing more positive goods and services. The current outlook is for an ever-growing economy with more and more throughput. (The myth of perpetual growth)

'Free goods' have been defined as commodities whose supply equals or exceeds the demands of all members of the public, or those that 'cannot readily be packaged for individual ownership or exchange.' Until recently, fresh air, open space, urban amenities, and pure water were regarded as free goods. Now that these elements are becoming critically scarce in many areas, large expenditures in time and money are required to maintain the stock of these commodities.

Some suggest that features of the natural environment that are in relatively short supply should be treated as 'newer resource elements.' They point to a growing trend toward production of services, rather than commodities. Today, a productive plant consists of a network of training, research, communications, water and air use, and other processes. 'Productivity changes are increasingly influenced by the efficiency of the urban 'plant' or urban environment'. Newer environmental resources should be subject to the same considerations as the more traditional resources, such as timber, coal, and metals. They are part of the national heritage and should not be used by one group or generation to the exclusion of others. We must be willing to invest in their development. They should be used for multiple purposes. And they should be managed in accordance with the basic laws of ecology and the other natural sciences.

Neither municipalities nor industries generally find it worthwhile to engage in significant expenditures for pollution control. Industry, which uses most of its water for cooling purposes, requires low quality water. Water has to be specially treated for drinking and specialized industrial uses, and it costs little more to treat heavily polluted water. Thus, neither industry nor municipal water companies gain much directly if rivers are cleaned up, and they are therefore reluctant to spend money for that purpose.

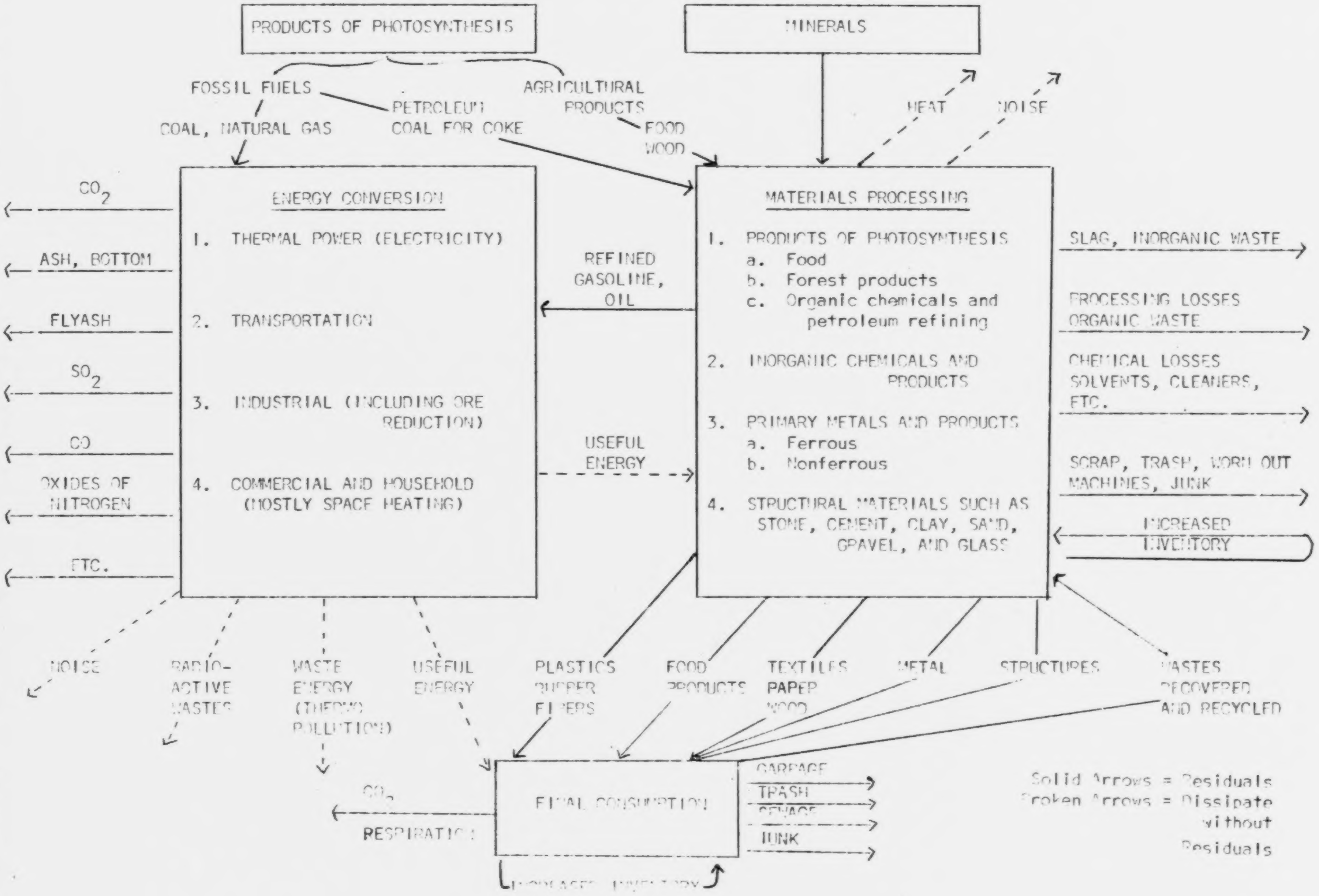
Nevertheless, using dirty water involves indirect costs.

Loss of recreation, fishing, and esthetic values are no less real than the cost of making water potable or safe for machinery. Most economists have ignored the social costs of business enterprise, primarily because they are inextricably bound up with societal values, which are subject to disagreement. But as has been pointed out to ignore social costs is equivalent to attributing a value of zero to them, which is as arbitrary as assigning them any positive or negative number.

Some economists are trying to resolve the problem of quantifying social costs to the value of recreational waters and the costs of air pollution,but there is really little definite agreement as to the proper value of each and there is still no dependable method of estimating the social costs accurately for the community.

Adapted from ENVIRONMENTAL LAW HANDBOOK, pages 12-17.

PRODUCTION PROCESS FLOW CHART


PRODUCTS OF PHOTOSYNTHESIS
MINERALS
FOSSIL FUELS
COAL, NATURAL GAS
PETROLEUM
COAL FOR COKE
AGRICULTURAL PRODUCTS
FOOD
WOOD
HEAT
NOISE
ENERGY CONVERSION
1. THERMAL POWER (ELECTRICITY)
2. TRANSPORTATION
3. INDUSTRIAL (INCLUDING ORE REDUCTION)
4. COMMERCIAL AND HOUSEHOLD (MOSTLY SPACE HEATING)
MATERIALS PROCESSING
1. PRODUCTS OF PHOTOSYNTHESIS
a. Food
b. Forest products
c. Organic chemicals and petroleum refining
2. INORGANIC CHEMICALS AND PRODUCTS
3. PRIMARY METALS AND PRODUCTS
a. Ferrous
b. Nonferrous
4. STRUCTURAL MATERIALS SUCH AS STONE, CEMENT, CLAY, SAND, GRAVEL, AND GLASS
REFINED GASOLINE, OIL
USEFUL ENERGY
CO_2
ASH, BOTTOM
FLYASH
SO_2
CO
OXIDES OF NITROGEN
ETC.
SLAG, INORGANIC WASTE
PROCESSING LOSSES ORGANIC WASTE
CHEMICAL LOSSES SOLVENTS, CLEANERS, ETC.
SCRAP, TRASH, WORN OUT MACHINES, JUNK
INCREASED INVENTORY
NOISE
RADIO-ACTIVE WASTES
WASTE ENERGY (THERMAL POLLUTION)
USEFUL ENERGY
PLASTICS RUBBER FIBERS
FOOD PRODUCTS
TEXTILES PAPER WOOD
METAL
STRUCTURES
WASTES RECOVERED AND RECYCLED
FINAL CONSUMPTION
GARBAGE
TRASH
SEWAGE
JUNK
CO_2
RESPIRATION
INCREASED INVENTORY
Solid Arrows = Residuals
Broken Arrows = Dissipate without Residuals

ENVIRONMENTAL ISSUES

UNIT B

In Conflict

LESSON 1: A CONFLICT

In this lesson you will see a series of films which were selected with a purpose in mind: to examine man's attitude toward his natural environment. Obviously there will be a range of attitudes as to how we should use our environment. There are emotions involved as groups form to determine what and how various parts of the environment will be used. In some cases one group will wish to modify nature in a way that few other people would find alarming. Few object to a modification if a park is the goal. At other times groups desire modifications that alarm great numbers of people and groups. The Alaska oil pipeline is an example of a proposal that aroused numbers of people and groups to action to defeat the idea. The Supersonic Transport (SST) similarly caused numerous groups to come into conflict.

Central to the conflict of ideas are the differences found in people, most of which relate to their background, education and employment.

You should consider these questions as you view the films:

1. Identify the need man is trying to meet by altering the natural environment.
2. List alternative means by which the need could have been met.
3. What are the costs of the various means that could be used?
4. What are the conflicting values in the alternative means?
5. What specific individuals or groups are rewarded or punished by engaging the change to the environment (e.g. logging, damming, etc.)?

In a discussion you will be asked to consider further questions your teacher will present to you. These questions will deal more specifically with each film.

LESSON 2: THE AMERICAN FRONTIER

A phase of our history which has been poorly presented to students until quite recently was that period called "the westward movement" or "the frontier". The movies we see give one the impression that the frontier was the cowboy. This impression is quite incorrect, as the cowboy's place in the history of the frontier is quite brief, only forty years as compared to a movement that took nearly two hundred years. The attitude of the cowboy, however, was one that saw the frontier as vast, endless and to be used. Other participants in the westward movement had similar attitudes. The trapper's era lasted only a few years as fur-bearing animals were not endless in number.

The film The Real West shows a very real clash of values and ethics---that is, of course, the reoccurring clash of the frontiersmen and the Indians.

As the film ends the question is asked, "Wouldn't it be great to tear it all down and do it all over again?" Would it? How might it be developed differently?

You will be asked to discuss the ethics, values and attitudes of each group that participated in the westward movement. You should be prepared to discuss:

1. How do you judge one's idea of what is right and what is wrong?
2. What ought our attitude be toward:
    a. drug use
    b. petting - how far to go
    c. recycling

3. What is the foundation for the ideas we have toward the three ideas above?
4. In the case of each of the films we have seen, what would be your personal preference in regard to the dams or the cutting of the redwoods? Who would be affected?
5. How would you justify a commitment to a position on the issues that would affect others?
6. In terms of the films that you have seen in the lesson, explain the ethics, values and attitudes of various people on the American frontier in terms of their use, abuse and understanding of natural life with which they came into contact. Students should establish a scale consisting of a ten-point spread. Point #1 may be labeled "TOTAL CONCERN" and Point #10 "TOTAL APATHY".

LESSON 3: IN CONFLICT

Your teacher will give you an assignment which deals with historical and recent clashes groups have had over the environment. These conflicts occurred in local areas, in states and nationally. Conflicts or course may also be resolved at various levels of government and in all three branches of the government---executive, legislative and judicial. We are not ready to discuss the resolution of conflicts in detail as yet, but you might keep in mind that people with very different values and attitudes face each other over issues all of the time.

LESSON 4: TOWARD AN ETHIC*

Reading: Comparison of Ethics

This lesson will require you to complete the brief reading, and then:

1. Define clearly the attitude of the early American toward their environment.
2. List statements and adjectives that express a value toward the environment.

You should also be prepared to discuss:

1. What is the attitude toward the modification of nature (the biblical ethic of man as master of the world)?

*Note: The reading for this Lesson will be found on pages 31-34.

- a. modification equated with progress
- b. control to eliminate fear or destruction
- c. utility of mankind toward civilization as the standard of behavior

2. What is the ethic based on man as solely a member of the environment?
    - a. primitive nature as being pure
    - b. nature equated with beauty
    - c. destruction of nature is evil
    - d. man and his place in the environment as a member of the animal kingdom

LESSON 5: ANOTHER ETHIC

In this lesson you will complete an assignment dealing with the conservation of the environment. Concern for natural resources, wilderness, and a livable environment did not start in recent years; in fact, many people became extremely alarmed years ago. The voices of these people were not lost in history. What we see today in terms of action to preserve the environment may well be the result of these concerned people and the changes that occurred due to their efforts.

LESSON 6: ANOTHER LOOK

This lesson consists of the simulation game, "Build A City."

LESSON 7: MINERAL KING*

In the next reading you will be confronted with a conflict which is current, has travelled through the court system to a Supreme Court decision and yet has not been resolved.

Your assignment will be to complete the readings and to:

1. Outline the arguments by the Sierra Club and Walt Disney Productions.
2. List the negative and positive aspects of the proposed project.
3. Outline the arguments on a priority list that you would use if you had to argue the case in a debate format.

*Note: The reading for this Lesson will be found on pages 35-46.

A Comparison of Ethics:

> ... A comparison of early Western attitude toward wilderness with that of other cultures dramatizes the great influence of the Judeo-Christian tradition in arousing and nourishing antipathy. In the Far East, by way of contrast, the man-nature relationship was marked by respect, bordering on love, absent in the West. India's early religions, especially Jainism, Buddhism and Hinduism, emphasized compassion for all living things. Man was understood to be a part of nature. And wilderness, in Eastern thought, did not have an unholy or evil connotation but was venerated as the symbol and even the very essence of the deity. As early as the fifth century B.C., Chinese Taoists postulated an infinite and benign force in the natural world. Wilderness was not excluded. Far from avoiding wild places, the ancient Chinese sought them out in the hope of sensing more clearly something of the unity and rhythm that they believed pervaded the universe ...
>
> Freed from the combined weight of Classicism, Judaism, and Christianity, Eastern cultures did not fear and abhor wilderness. Nor did they feel ... conflict between religion and appreciation of natural beauty ... But Western thought generated a powerful bias against the wilderness, and the settlement of the New World offered abundant opportunity for the expression of this sentiment.[2]

Columbus on his Second Voyage to Haiti:

> ... The convenience and excellence of the harbours in this island, and the abundance of the rivers, so indispensable to the health of man, surpass anything that would be believed by one who had not seen it. The trees, herbage, and fruits of Espanola are very different from those of Juana, and moreover it abounds in various kinds of spices, gold, and other metals ... [The natives] exhibit great love towards all others in preference to themselves: they also give objects of great value for trifles, and content themselves with very little or nothing in return. I however forbad that these trifles and articles of no value (such as pieces of dishes, plates, and glass, keys, and leather straps) should be given to them, although if they could obtain them, they imagined themselves to be possessed of the most beautiful trinkets in the world. It even happened that a sailor received for a leather strap as much gold as was worth three golden nobles, and for things of more trifling value offered by our men, especiallly newly-coined blanca [French coins], or any gold coins, the Indians would give whatever the seller required; as for instance, an ounce and a half or two ounces of gold, or thirty or forty pounds of cotton, with which commodity they were already acquainted. Thus they bartered, like idiots, cotton and gold for fragments or bows, glasses, bottles, and jars; which I forbad as being unjust, and myself gave them many beautiful and acceptable articles which I had brought with me, taking nothing from them in return; I did this in order that I might more easily conciliate them [gain their good will] that they might be led to become Christians, and be inclined to entertain a regard for the King and Queen, our Princes and all Spaniards, and that I might induce them to take an interest in seeking out, and

> collecting, and delivering to us such things as they possessed in abundance, but which we greatly needed. They practice no kind of idolatry [worship of idols], but have firm belief that all strength and power, and indeed all good things, are in heaven, and that I had descended from thence with these ships and sailors, and under this impression was I received after they had thrown aside their fears ... [The natives] are still travelling with me, and although they have been with us now for a long time,[3] they continue to entertain the idea that I have descended from heaven ...
>
> ... And then other [natives] came, bringing with them stones of gold weighing ten or twelve drams, and they feared not to confess that in the place where they gathered that gold,[4] there were sometimes found stones of gold as big as the head of a child.

A Colonial P.R. (Public Relations) Man:

Britains, you stay too long,
Quickly aboord bestow you,
   And with a merry gale,
   Swell your stretched sayle,
With vows as strong
As the winds that blow you.

And cheerefully at sea,
Successe you still intice,
   To get the pearls and gold,
   And ours to hold
      VIRGINIA,
Earth's only Paradise.[5]

Our Puritan Heritage:

> While the Puritans and their predecessors in perfectionism often fled to the wilderness from a corrupt civilization, they never regarded the wilderness itself as their goal. The driving was always to carve a garden from the wilds; to make an island of spiritual light in the surrounding darkness. The Puritan mission had no place for wild country. It was, after all, a *city* on a hill that John Winthrop called upon his colleagues to erect. The Puritans, and to a considerable extent their neighbors in the plantations to the south, went to the wilderness in order to begin the task of redeeming the world from its "wilderness" state.[6] Paradoxically, their sanctuary and their enemy were one and the same.
>
> For the Puritans, of course, wilderness was metaphor as well as actuality. On the frontier the two meanings reinforced each other, multiplying horrors. Seventeenth-century writing is permeated with the idea of wild country as the environment of evil. Just as the Old Testament scribes represented the desert as the cursed land where satyrs and lesser demons roamed, the early New Englanders agreed with Michael Wigglesworth that on the eve of settlement the New World was: "a waste and howling wilderness,/Where none inhabited/But hellish fiends, and brutish men/That Devils worshiped." This idea of a pagan continent haunted the Puritan imagination. Wigglesworth went on to term North America the region of "eternal night"

and "grim death" where the "Sun of righteousness" never shone. As a consequence "the dark and dismal Western woods" were "the Devils den." Cotton Mather believed he knew how it got into this condition: Satan had seduced the first Indian inhabitants for the purpose of making a stronghold. From this perspective, the natives were not merely heathens but active disciples of the devil. Mather verged on hysteria in describing "the Indians, whose chief Sagamores are well known unto some of our Captives to have been horrid Sorcerers, and hellish Conjurers and such as Conversed with Daemons." The wilderness that harbored such beings was never merely neutral, never just a physical obstacle.[7]

As self-styled agents of God, the Puritan pioneers conceived their mission as breaking the power of evil. This involved an inner battle over the "desolate and outgrowne wilderness of humaine nature," and on the New England frontier it also meant conquering wild nature. The Puritans seldom forgot that civilizing the wilderness meant far more than profit, security, and worldly comfort. A manichean battle was being waged between "the cleare sunshine of the Gospel" on the one hand and "thick antichristian darkness" on the other. Puritan writing frequently employed this light-and-dark imagery to express the idea that wilderness was ungodly. As William Steele declared in 1652 in regard to missionary work among the Indians, the "first fruits of a barren Wilderness" were obtained when civilization and Christianity succeeded in "shining ... a beame of Light into the darknesse of another World." Cotton Mather's *Magnalia* concerned the wondrous way that religion "flying ... to the American Strand" had "irradiated an Indian Wilderness." Those who resisted the "glorious gospel-shine" fled, as might be expected, ever deeper into "forrests wide & great."[8]

In view of the transcendant importance they attached to conquering wilderness, the Puritans understandably celebrated westward expansion as one of their greatest achievements. It was a ceaseless wonder and an evidence of God's blessing that wild country should become fruitful and civilized. Edward Johnson's *Wonder-Working Providence of 1654* is an extended commentary on this transformation. Always it was "Christ Jesus" or "the Lord" who "made this poore barren Wildernesse become a fruitfull Land" or who "hath ... been pleased to turn one of the most Hideous, boundless, and unknown Wildernesses in the world ... into a well-ordered Commonwealth." In Boston, for instance, the "admirable Acts of Christ" had in a few decades transformed the "hideous Thickets" where "Wolfes and Beares nurst up their young" into "streets full of Girles and Boys sporting up and downe." Johnson and his contemporaries never doubted that God was on their side in their effort to destroy the wilderness. God's "*blessing* upon their undertakings," the elderly John Higginson wrote in 1697, made it possible that "a *wilderness* was subdued ... Towns erected, and Churches settled ... in a place where ... there had been nothing before but *Heathenism*, *Idolatry*, and *Devil-worship*." The New England colonists saw themselves as[9] "Christ's Army" or "Soldiers of Christ" in a war against wildness.

Understandably, subjugation of wilderness was the chief source of pioneer pride. Indeed the whole nation considered the settlement of the West its outstanding accomplishment. Timothy Dwight even felt it worthy of comparison with the cultural magnificence of Europe. *"The conversion of a* *wilderness into a desirable residence for man,*" he declared early in the century, "at least ... may compensate the want of ancient castles, ruined abbeys, and fine pictures." For a young country, self-conscious about its achievements and anxious to justify independence with success, the conquest of wilderness bolstered the national ego. "What a people we are! What a country is this of ours," chortled Josiah Grinnell in 1845, "which but as yesterday was a wilderness." On a humbler level, the individual pioneer felt a glow of pride in clearing the land or breaking the virgin sod. One guidebook for settlers advertised: "you look around and whisper, 'I vanquished this wilderness and made the chaos pregnant with order and civilization, alone I did it.'" The same note often sounds in the rhetoric of a President who takes great pride in the way his family make the "barren" and "forbidding" country in the valley of Texas' Pedernales River "abundant with fruit, cattle, goats and sheep."[10]

Of course, many pioneers deliberately chose to live in the wilderness. Many moved westward to a new homestead, legend has it, when they could see a neighbor's smoke. Love of the wilds, however, did not prompt this behavior but rather a hunger for their destruction. Pioneers welcomed wild country as a challenge. They conceived of themselves as agents in the regenerating process that turned the ungodly and useless into a beneficent civilization. To perform this function wilderness was necessary, hence the westward urge. Only a handful of mountain men and voyageurs were literally absorbed by the forest and ignored the regenerative mission. Reverting to the primitive, in some cases even joining Indian tribes, these exceptions regarded civilization with the antipathy most pioneers reserved for wilderness.[11]

---

[1] Roderick Nash, *Wilderness and the American Mind* (New Haven: Yale University Press, 1967), p. 20.

[2] *Ibid.*, pp. 21-22.

[3] Allan O. Knownslar and Donald B. Frizzle, *Discovering American History* (New York: Holt, Rinehart and Winston, Inc., 1967), pp. 18-19.

[4] *Ibid.*, p. 21.

[5] Samuel Eliot Morison, *The Oxford History of the American People* (New York: Oxford University Press, 1965), p. 49.

[6] Nash, p. 35.

[7] *Ibid.*, p. 36.

[8] *Ibid.*, pp. 36-37.

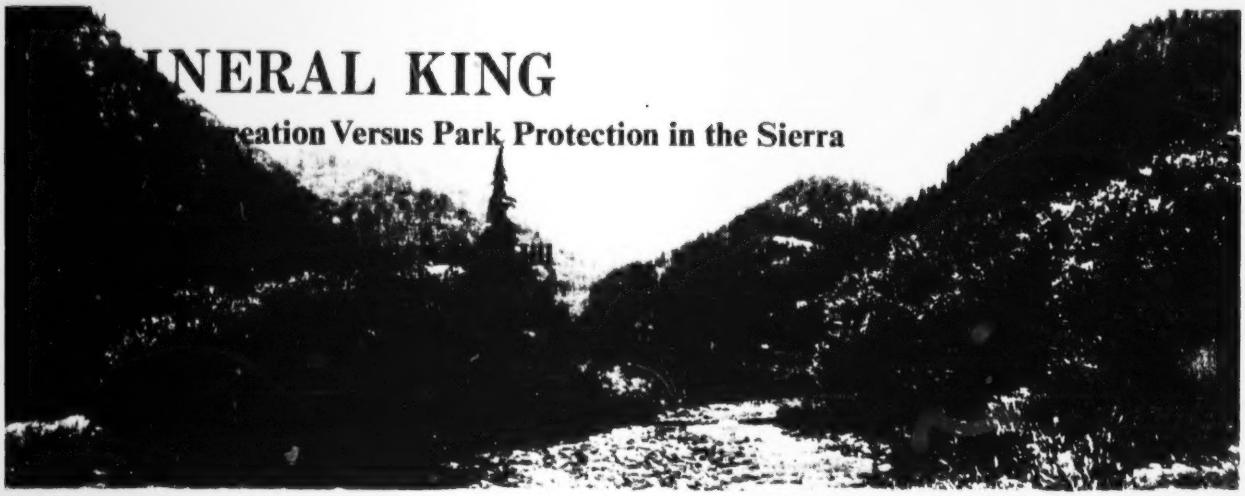
[9] *Ibid.*, p. 37.

[10] *Ibid.*, p. 42.

[11] *Ibid.*, pp. 42-43.

NERAL KING

eation Versus Park Protection in the Sierra



This country's ecological awakening is revealing the trap that is implicit in planning to meet projected demands and doing so with single-minded mission-oriented thinking. The environmental dilemmas posed by this kind of thinking are dramatically illustrated by the plans for a giant resort at Mineral King in California's Sierra. Federal officials, assuming they know what is in the public interest and that they can handle all problems, have barged ahead without answers to any basic ecological questions.

Moreover, when a project such as this mushrooms into a super-project, the problems rising out of such singlemindedness multiply sharply. Mineral King is a glaring example of an approach to planning that becomes completely unacceptable once certain thresholds of size and impact are passed. In a number of quantum jumps, the project has grown to such a size that all other values are in danger of being overwhelmed.

The resort is proposed on a tract of national forest land that is tucked into an indentation on the south side of Sequoia National Park. Feeling that southern California needed a huge ski resort, and that the Forest Service needed a showpiece recreation complex, the Service issued a preliminary permit in 1965 to Walt Disney Productions to develop America's largest mountain resort. Conservationists, who felt the remote site belonged in Sequoia National Park, launched an immediate protest, and the matter is now entangled in litigation they have instigated. They claim that necessary studies have not been done to safeguard the area's fragile qualities, and that the Forest Service is blandly asserting it can handle a host of problems it has hardly begun to investigate.

THE AREA

Today Mineral King is a largely unspoiled near-wilderness region. Largely surrounded by Sequoia National Park, the Mineral King valley and the surrounding high-country form a truly spectacular scenic area. For over a century visitors have been making the trip to this remote area to enjoy its splendid scenery, its natural curiosities, and its quiet unhurried atmosphere.

Mineral King valley is the heart of this region — quite small, only about 300 acres — but more important than its size would indicate, since it is the natural scenic and ecological focal point of the area. The boundaries of the region, except on the west, are a hydrographic divide, with Mineral King forming the headwaters of the East Fork of the Kaweah River which flows out of the valley to the west across Sequoia National Park. The Valley's floor is only at an elevation of 7,800 to 7,900 feet. However, it is open and alpine in appearance, largely because the persistent avalanches that sweep down the steep slopes periodically thin out any trees — or for that matter buildings — in their paths. In all directions high peaks, some up to 12,000 feet, present imposing views.

For its size, it is over-endowed with the things a visitor looks for in a mountain valley. Five major streams — Monarch, Crystal, Franklin, White Chief and Eagle — and a number of smaller ones form cascades down the valley's walls. On their way to join the main stream of the valley, each side-stream waters its own flower garden: tiny white orchids, lilies, gentians, sneeze weed, and countless others. These gardens merge into acres of meadows in the lower parts of the valley. Around its edges a scattering of cottonwood and aspen groves provides summer shade and sometimes, in season, bright spots of autumn gold.

Each of the major streams, and several others that join the Kaweah just outside the valley, flow from glacially-formed hanging valleys, each one a separate lake basin. Of the approximately 22 lakes found in these high valleys, each one has its own character, its own unique setting; some are rimmed with tall pines, others are above the tree-line, and still others are nestled up against great stone walls left from the time when the glaciers carved out these basins.

Much of what is interesting and beautiful in this high country is fragile, easily destroyed by foot or by the blasting and earth moving that would accompany development — the perfection of a group of flowers along a stream bank, or an area of polished rocks showing the marks made by the movement of the glaciers that long ago covered this High Sierra region. While the Mineral King basin includes 15,000 acres, the impact of development will most likely be concentrated in the areas that are the most fragile and which form a relatively small proportion of the total: stream sides, lake sides, and meadows.

From atop the great walls at the tops of the cirques of these glacial valleys, one can look out across the Mineral King region at a panorama of contrasting geologies not often found

Monarch Creek, near the junction of Franklin Creek.

in the Sierra Nevada. Turning around, one is looking into the wilderness high country of Sequoia National Park, while just to the east of Mineral King you look into one of the last great wildernesses, and certainly now the most remote, of the entire Sierra.

There are many other things to see in Mineral King: bubbling soda springs, old mines, disappearing streams, and marble caves. Located at the end of a winding, narrow 25 mile-long road, Mineral King has been just far enough from the crush of visitation to preserve its fragile beauty from over use and over development. One thing is certain: the visitor to Mineral King leaves behind smog, freeways, ringing telephones, crowded checkstand lines, and a great many other "benefits" of modern life, and finds blue skies, white clouds, clear lakes, green trees, rushing streams and only the sounds of nature. Places like Mineral King are growing fewer each year. It is all too easy for them to fall to ill-conceived developments, and it is almost impossible to reclaim them.

ITS HISTORY

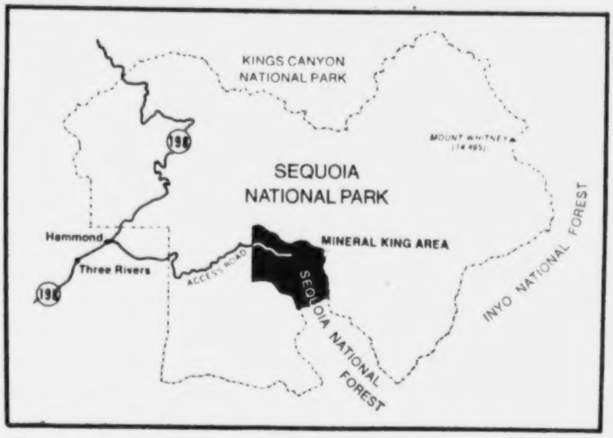
In 1926, in the act which enlarged Sequoia National Park to twice its previous size, 15,000 acres of the Sequoia National Forest were designated the Sequoia National Game Refuge (popularly called the Mineral King Game Refuge). Previously an undesignated region of the National Forest, it apparently was excluded from the enlarged Park because of mining interests still active in the area, remnants of the silver rush of 1872-1888. Since then, the mining operation and the few remaining structures associated with it have largely disappeared, and the principal value of the area is acknowledged to be for outdoor recreation.

As a culmination of interest originating in the 1930's, the U.S. Forest Service issued a prospectus in 1949 seeking private capital to develop the area for winter sports. Calling for a development which would be modest by today's standards, they were not able at that time to interest a developer because of the lack of an adequate all-weather highway from State Highway 198 to the valley. In 1965 the Forest Service issued a second prospectus, outlining a winter sports development projected to cost a minimum of $3 million. This time the Forest Service imposed a condition on the recipient of the 30-year operating permit that he secure construction of an all-weather highway to the valley before the permit could be issued. Six bids were received by the Forest Service that met the minimum qualifications. Four of these were for relatively modest developments, and two were for developments in the $35-$40 million range. Ultimately the $35-million development proposal of Walt Disney Productions was accepted, and a three-year preliminary permit for further study was issued in December of 1965.

At this time no agreements had been reached with the National Park Service concerning highway construction across Sequoia National Park or access to the Park from the Mineral King area. Apparently no one at that time questioned the resulting impact such a development would have on the park. Yet, a private developer was issued a permit calling on him to develop a plan that would require access across the park and would undoubtedly have an impact on it, without any standards having yet been established regarding the park's protection.

Later in 1968, the Forest Service's Regional Office promised to provide a period for the public to review the developer's plan before it was adopted. Conservationists were hopeful that major modifications would be made. In mid-December, the Forest Service indicated that a limited impact study it was conducting and not yet been finished but "hopefully will be some time this winter." Plans were not yet firm on a Visitor Information Service Center, which the Forest Service was implying was a major justification for the summer visitation, and "probably won't be for several months."

Nonetheless, in January of 1969, without notice or opportunity for review, a master plan differing in detail, but in outline essentially in agreement with the Disney Company's original proposal, was accepted by the Forest Service. However, the 30-year development permit was not issued at that time because agreement had not yet been reached over the access road crossing the Park. The issuance of this permit has been further delayed by legal action initiated by the Sierra



Mineral King, originally excluded from Sequoia National Park in 1926 because of mining interests active in the area at that time.

Club.

THE DISNEY DEVELOPMENT

The original Disney proposal for a $35 million project estimated visitation at 2.5 million visitors annually, 60 percent of which was to be in the summer. Subsequently this figure has been reduced twice, first to 1.7 million and later to 980,000. The reasons for the reductions are not altogether clear, but they stem at least in part from the elimination of camping of various types in and near the valley. Even at this lower figure, and some doubt it will not be exceeded, the visitation density in the valley will still be 3-4 times as high as in overcrowded Yosemite Valley. A high proportion will still be visiting the area during the spring and summer seasons when the snow does not cover the ground and the spring growth is vulnerable.

Not only is the visitation rate extremely high, but the facilities planned to accommodate the visitors are truly enormous: an 8-10 story parking structure for 3,600 vehicles including buses, a 1030 room hotel complex for visitors plus extensive accommodation for the nearly 1000 employees (some will be housed in the valley and others nearby), and a lift system employing 22-27 lifts of various sizes and types extending up to four miles into the surrounding country.

In the vicinity of the parking structure will be an "auto reception center" with extensive areas for storage, food preparation, a wardrobe department, administrative offices, hospital, heliport, and shops. From the auto reception center the visitor can travel to the village on "colorful excursion trains" where he will encounter the hotel complex, numerous shops, restaurants, a convention center, theater, and an equestrian center and arena complex. Other major facilities include a complex located out of the valley near an area known as Miners' Ridge which will be for ski instruction and presumably other purposes, and a restaurant at a high elevation near an area known as Eagles Crest.

The list of restaurants is impressive:

"Probable Mineral King food-service facilities in Year 1 will be a popular-priced buffeteria near the "family" rooms in the Village with 150 seats; a village center konditorei, or tea room and coffee shop, with a capacity of 100 seats; a 100-seat "teen center" near the "family" rooms; a gourmet restaurant with beverage service atop a village hotel, again with 100 seats; another popular-priced buffeteria, particularly attractive to one-day guests, at the automobile reception center with 200 seats; a quick-service snack bar immediately adjacent to the parking area buffeteria with a capacity of 150 seats; a 200-seat buffeteria at the Midway Gondola Terminal at Miner's Ridge, with beverage service, a facility which will convert to waitress service in the evening and for special occasions; a 150-seat coffee shop and snack service at the enclosed lift terminal on Eagle's Crest, and a medium-priced waitress-serviced restaurant atop the village gondola station with beverage service, the capacity 150 seats.

"By Year 5 the buffeteria near the "family" rooms in the village would be expanded from 150 to 300 seats, and the reception center buffeteria from 200 to 300 seats. Additionally in year 5 we will add a snack bar and sandwich shop at the Midway Gondola Terminal with a capacity of 150. A multi-themed 350-seat restaurant in the Village, with beverage service; a 300-seat waitress-served restaurant just south of the automobile reception center, and a snack service facility in an area immediately adjacent to the centralized village ice-skating rink." (From Master Plan Presentation, Walt Disney Productions, January 8, 1970).

West slope of Mineral Queen Peak, Vandever Mountain in background. A gondola terminal and restaurant would be constructed on the summit of Mineral Queen Peak, upper left.

It is important to remember that these facilities cannot stand alone, but require the development of a substantial water supply with associated water storage facilities, the development of sewage treatment plants, and local generation of power or its importation through transmission lines which would run across the park.

A development of this size will also require the construction of a substantial highway across Sequoia National Park with a capability of handling peak loads of at least 1,200 cars per hour.

CONSERVATIONISTS' OBJECTIONS

All of these facilities are needed to serve the huge numbers that will be attracted to the "mecca" that the Disney Corporation and the Forest Service plan for the area. The development of such an attraction goes far beyond their claims of meeting outdoor recreation needs. The difference in size between a $3 million development and a $35 million one was enough to alarm conservationists, but this difference does not fully reveal an equally, if not more alarming, underlying premise. This is the idea that you can vastly increase visitation and still maintain a reasonably natural condition by skillful design and cosmetics. It is specious to assert that you can build a hotel and entertainment complex, a so-called "self-contained village," as large as in our major cities and still preserve a sense of naturalness and the integrity of a fragile ecology and its beauty.

That the development goes beyond serving outdoor recreation is evident from the developers' own literature. What

South Fork Meadows, Hockett Wilderness, Sequoia National Park.

can we expect from a "controlled introduction to nature"? Disney literature says: "This organization will certainly conceive of new and interesting ways to entertain visitors and let them better understand and enjoy this area." "We will have a variety of organized activities for children of all ages . . . for both day and night, we plan frequent musicals and theatrical performances by visiting groups." Outside of a mention of imported goods, very little is said of what will be found in the village's shops.

All of this is being conducted in and near areas that have a fragile ecology. In these high elevations, the growing season is short and it is difficult for plants to become established. Any damage to the plant life may take many seasons to repair, and this disturbance, even if slight, may continue to be felt season after season. It if is heavy, as it will be in a high density recreation development, the plant life will ultimately disappear from the disturbed areas. Following disappearance of plant life, the soil can be more easily eroded. Once the soil is gone, there is no base for the re-establishment of vegetation, and it may take centuries for the soil to be rebuilt.

All of this development also is to take place in a game refuge. The most heavily impacted area, the valley, is a key part of the refuge since it is the only area of lush vegetation and is the summer range of deer and other animals which range along the East Fork of the Kaweah River. Under continual disturbance, many animals will simply leave an area even if their habitat is not completely destroyed. No studies have been conducted to find out what the *total impact* will be on animal populations or on the plant life, some of which is unique, including the oldest known Foxtail pines. On any large tract of National Forest land the public should be able to expect these matters to be looked into; in a refuge they can reasonably expect even greater care to be exercised. You cannot wait until after a project is completed to find out what damage will be done. By then the decision is largely irreversible.

Conservationists are not alone in their view of the development:

> "It is recognized that development of high intensity year-round recreational use in this restricted fragile sub-alpine area is bound to result in pronounced impacts and certain unavoidable changes." (from a letter to the Recreation section from the Range and Wildlife section of the Forest Service).

A letter from the State Department of Fish and Game confirms the fact that the development will intrude on the Refuge's wildlife:

> "This Department has not made specific studies nor prepared reports regarding the effects of this development on wildlife. We can say, however, that in an extensive development such as the Disney proposal, considerable wildlife habitat would be lost and wildlife would suffer from human encroachment."

A development of this size will unquestionably have a major impact on the ecology of Mineral King and on portions of Sequoia National Park. Conservationists find it difficult to say exactly what this will be for two important reasons. First, needed ecological research has not yet been done in the area, and conservationists do not have the resources available to do it themselves, nor can this be expected of them. It is the government agencies that should have had these studies done, for they were needed as a basis on which to decide whether development should take place. The public should be satisfied that the studies on which approval is based are adequate. Second, the master plan that has been approved by the Forest Service apparently allows for such great flexibility that major changes can take place, even within the sketchy outline of planning that is presented. It is impossible to analyze accurately what the impact will be when it is impossible to establish exactly what will be built and where.

It would seem that the public should have a right to know *exactly* what is going to be built before the project is authorized. Will a reservoir cover a large portion of the meadows in the valley? Will there be commercial helicopter service to the development across Sequoia National Park? Both of these have been, but reportedly are not currently, planned. There appears to be no guarantee, however, that both of these objectionable features could not be included at a later date, along with a number of others. The truth is that, except in a vague way, approval of the master plan by the Forest Service does not appear to specify what kind of development and operation will be built at Mineral King. The Disney organization defends this flexibility in the master plan by saying that it allows them to improve their plans up to the last minute before construction. But improve to whose standards? How large a role will economics play in setting these standards when perhaps other factors should apply? The Forest Service says they will have the final say before anything is done. Perhaps they will, but will they apply the same standards that have been applied to other ski areas, some of which are a blight on the landscape? These standards are not high enough for Mineral King or other areas. Actually, the Forest Service itself cannot tell what standards can be maintained without making the ecological studies that, as far as is known, have yet to be made.

In the alpine and near-alpine high country where a harsh climate and thin soils are a constant challenge to plant life, how much trampling and disturbance can the meadows stand before the balance is tipped against them, and the area becomes barren? How will this use increase erosion? With 22 to 27 lifts, what grand views will be left without towers and cables? Here, in this clear atmosphere, things that are miles away appear close at hand and construction scars will be clearly evident. In constructing the lifts and other facilities in the high country, will the materials and labor be brought in by helicopter, or will a road which will do considerable damage be constructed? Will the continued maintenance and service of the lifts and restaurants be done by vehicular access or by air? Neither the Forest Service nor Disney will commit themselves as to which method will be used.

In their original proposal, the Disney Corporation indicated some idea of what they felt would be necessary:

> "Grooming and manicuring of most slopes without destroying the naturalness of the area particularly for intermediates, will require extensive bulldozing and blasting in most lower areas and extensive rock removal at higher elevations. This is especially true for the Mosquito, Eagle, and White Chief Bowls and the lower Farewell Canyon area."

Other effects on portions of the area outside the valley will arise out of avalanche and flood control work. Debris dams will be constructed on the tributary streams to protect the main development from flood damage. An unknown amount of terrain will be modified in conjunction with snow fences which will probably be used to minimize avalanche hazards. A water supply and sewage disposal system will have to be developed for the remote facilities.

While no agreement has been worked out with the National Park Service, visitors to the development will be dropped by lift within easy reach of Sequoia National Park. What facilities will be necessary to protect the park and to provide for the visitors' needs and safety? In the case of one ski lift, visitors will have to ski through a portion of the park to return to the Mineral King area.

The clearing for ski runs and other disturbances will increase run-off and the debris that will be carried in the streams. This will aggravate the highly disturbed conditions in the valley, which, even without additional disturbance, shows a strong tendency toward erosion. Construction of the hotel complex outlined earlier, including swimming pools, underground utilities, and possibly underground storage, development of water supplies and sewage treatment facilities, a golf course, tennis courts, trails for horseback riding and pack animals, will result in tremendous disturbance of the area. The dangers of flooding and washout might require artificial channels for Monarch Creek, the Kaweah and East Rivers or both, to handle increased water flow.

In addition to the scarring already mentioned, the access road to serve the development would cut through unique portions of the Giant Sequoia groves, endangering a large proportion of the trees below the road. A study conducted for the State Division of Highways by Dr. R.J. Hartesveldt concerning the possible effects on the Sequoias raises these alarms:

Cleared ski slopes, Mammoth Mountain. Similar "grooming and manicuring" will be necessary for Mineral King.

"There is much evidence of soil materials on the move in these two groves and I believe that it merits the most serious engineering consideration before the road-building commences. To me, it constitutes the number one problem involved in the preservation of park values.

"As I studied the canyon of the East Fork of the Kaweah, I was impressed with the general instability of the soil and soil materials. The evidence of erosion is widespread . . . In all, there are 103 sequoia trees below the proposed roadway centerline, of which 45 could be affected in some manner by the construction of the road."

Later in the report he comments on a proposed bridge:

"In spite of plans to bridge this deep canyon because of the depth, accelerated erosion is very likely to be a major problem no matter what engineering activities occur there . . . Of the 32 groves of giant sequoias familiar to the author, this drainage-way provides one of the most unique communities of plants he has seen in association with sequoias. This in itself makes the utmost protection desirable."

Below the valley, new problems are emerging along the proposed access road. A large private inholding within the

Road clearing and construction, Yosemite National Park. To provide access to Mineral King, a similar high-speed road would have to be built through Sequoia National Park.

Mineral King Refuge and adjacent to the National Park is the site of plans for a condominium-hotel complex that could bring additional millions of dollars of development to the area and would impose an additional load on the highway and available water supplies. So far, the County has rejected the developers' plans but there is always the possibility in the future that Tulare County might find it economically expedient to approve them, much in the manner that they have encouraged the Disney project.

In Sequoia National Park, the new road will be particularly damaging. The old road follows the terrain with much twisting and turning and does little damage to the canyon that is steep and dissected by the smaller side canyons of tributary streams. On the other hand, the new road will have curves with a minimum radius of 850 feet, which will require extensive cuts and fills and bridging to handle higher speeds. The Clarkeson Engineering report, prepared for the National Park Service and other highway engineers, raises strong doubts that this "two-lane-with-passing-lane" design will be adequate for the projected peak traffic flow of 1,200 cars per hour. The design certainly does not provide for passing lanes adequate for winter use with the need to install and remove tire-chains. There is a strong feeling that the current design is merely a foot in the door: it is less expensive and less damaging than what will ultimately be required.

While this road does not serve any park purposes, indeed does not even fit into park plans, it will bring to the park the noise and air pollution of up to 1,200 cars per hour and will overwhelm existing facilities. Who will find it desirable to camp at a park campground that will be only a few yards from the edge of a highway with its day and night traffic?

It is clear the Sequoia National Park and Mineral King have an intimate relationship. Geographically and topographically, Mineral King is isolated from the rest of Sequoia National Forest, but is surrounded by the park. Water that flows through the park originates in Mineral King and, reminiscent of the Everglades National Park situation, any change in its quantity or quality will affect life in the park. The only reasonable access to Mineral King is through the park. Increased access to the high country of Mineral King will also increase access to the high country of the park. The wildlife of the two regions is linked.

Conservationists seek a workable solution to the problem of utilizing Mineral King's outdoor recreation potential, while protecting the natural values of both the park and Mineral King. Such a solution does not appear to be forthcoming with separate administration of the two areas. There is no doubt about the fact that Mineral King is a region of National Park calibre and that the purposes to which it is best suited are compatible with National Park objectives. Coordinated planning and protection of the areas can best be achieved if Mineral King is added to the National Park.

IMPLICATIONS

The central premise of the Mineral King project is that Southern California's skiers need more ski areas. The argument is put forth that their skiers have to travel too far and that the existing areas are crowded. Some of the nearest areas which might be developed are Wilderness areas, and the opportunities for new developments are limited. The advocates of skiing development assert that it is only fair that more remote, large capacity sites like Mineral King should be developed to meet this need.

At first blush, this argument sounds plausible, even appealing. But the thinking behind it is very much like the thinking other developers advance: "our electrical consumption doubles every ten years, therefore we must build more power plants." "We must continue to build more freeways to relieve traffic jams."

We are beginning to find out that the new freeways will be crowded too, and that the new power will quickly be used. And as we are finding that anything we provide will find users, we are also finding that our environment gets a bit less tolerable with every new urban freeway and power plant.

Thus we realize that we lose something with every new development, as well as gain something. In balancing the losses and gains, we must look at the overall trends in our environment. The quality of the environment is deteriorating because of a host of decisions to move ahead with more development, each of which can be rationalized as based on a proper individual balance between losses and gains. In sum total, however, these decisions push us further and further into an intolerable situation: an environment overloaded with development, with traffic, with smog, and damaged habitats.

To stop the trend toward progressive degradation, there is a growing conviction that we must not only curb population growth but must also question the assumptions of those who say we must keep meeting projections of demand. Meeting these projections may be no more than an exercise in building self-fulfilling prophecies. These new developments will be attractive enough to build new clienteles, which can be retrospectively offered as proof that demand was in fact being met. Of course, it is equally arguable that if another option were offered, one involving environmental protection – that a clientele could be developed for it too. In this instance, it is entirely likely that inclusion of Mineral King in Sequoia National Park would attract a large body of devoted park visitors. While one could argue over comparative numbers of visitors under both alternatives, it is quite possible that just as large, if not a larger, sum total of satisfactions would accrue annually to park visitors as to visitors to the resort.

Moreover, once you play the game of meeting projected "demands," the question always remains of what you do next, once the area fills up. The logic of "building, building, building" to meet demand suggests that the process must keep on going indefinitely, or at least as long as population keeps growing and entrepreneurs promote new markets. However, it is patently evident in this case that it is physically impossible to keep going indefinitely. There are just not that many additional sites for major development. Sooner or later, the process of building ski areas must come to an end. With that in mind, we must ask: "In what shape ultimately do we want to have our mountain landscape?"; "what is the balance between development and preservation that will really best serve society?" If skiing demand in any event is going to be left unsatisfied at some later stage, why let it go on proliferating past the point of proper balance? Shouldn't we really draw the line to keep fragile landscapes, such as the Sierra, in the best shape we now know how to provide, and keep overpowering projects like Disney's Mineral King development out?

Another disturbing aspect of the case for the Southern California skiers is the unspoken assumption that there is some obligation on the part of public authorities to provide expanding opportunities for every kind of sport, no matter what the inherent obstacles. Clearly no part of the southern United States is ideally situated to serve skiing. The region suffers from basic climatic disabilities, just as northern regions suffer from disadvantages in having sufficient opportunities for warm-water ocean bathing.

Nevertheless, Southern Californians seem to feel that engineers should be able to rescue them from all their climatic disabilities, from lack of water, to air, to skiing. If the area is too far from enough water, their answer is re-engineer the state's northern rivers to run them southward. If the area lacks nearby skiing, the answer is to move higher into the Sierra with subsidized access and plans for high volume use to make skiing there financially feasible.

Present road to Mineral King. Following the terrain with much twisting and turning, it does little damage to the canyon.

In both cases, the resource is bent drastically to rescue a demanding population from the short-comings of a particular area in which they have chosen to locate themselves. The question can just as well be asked for skiing as for water: "Why not locate the people in places where these opportunities can be afforded with far less violence to the landscape and its resources?" Certainly, people are not going to move out of Los Angeles in droves just because Mineral King is not built, but preventing its population from reaching farther and farther to abuse resources may gradually make Los Angeles a less and less attractive place to live. This is one way to bring the Los Angeles syndrome to an end.

THE NARROW VISION OF BUREAUCRACY

Related to the problem of purported need is the question of how decisions such as this one should be made: Somehow, in the case of Mineral King, the Forest Service has always assumed that development should be pushed, that it was in the public interest. Building a resort was the assigned mission. This assumption grew out of studies done in the nineteen thirties and forties which identified the skiing potential of the area. Because of growing evidence that a ski resort could be developed, the Forest Service grew to believe that it should be. There was never an opportunity to test the hypothesis that "what could be done, should be done."

Once the commitment to the mission became fixed with the Forest Service, anything that might call the decision into question was looked upon as an obstacle to be overcome. Justification studies were not done. Ecological studies were not done. Only snow and weather studies and development planning studies were done. These aided the project; the former might impede it. No judicious weighing process ever took place. By the 1940's the Forest Service had become committed, and it then became just a question of how to find the capital and the developer that would bring the project into being.

Page 47

As a custodian of a public trust, as administrator of a statutory wildlife refuge, as a neighbor to a national park, the Forest Service never asked itself what was the nature of the ecology of the area. It never conducted any kind of biological survey of the area to determine what species are present, with what kind of distribution and in what numbers. It never sought to identify how fragile the margins of life might be in the basin, nor how delicate habitat needs might be. In internal memoranda, some of the Forest Service's own biologists revealed their concern over these failures: "The total basic concept of development appears badly biased in orientation toward a highly artificial, continued situation, without any real attention to ecological factors . . ." (Memorandum from Range and Wildlife Management Section, Jan. 6, 1967). "I would hope that we study the impacts of this concession for a long time before permitting another one" (Memorandum of Jan. 21, 1969 from Director of Division of Wildlife Management).

In the tradition of mission-oriented agencies, the Service as a whole simply maintained that all problems would be adequately dealt with. The Service, which nationally conceives of its main mission as cutting and selling timber, is accustomed to thinking that the landscape can be treated roughly without worry. It was sure some sort of mitigating provision could be put in the plan to deal with each objection that might arise. Since 1965, the Forest Service has engaged in patch-up planning to respond to various objections. A high-rise auto garage will be built instead of using up lots of space for parking. To avert the problem of traffic in a narrow valley, the garage has been moved steadily down valley. To respond to the problem of separating paying visitors from campers, provisions for camping have been phased out. In response to suggestions that the area will be too crowded, the initial traffic estimates have been cut back. Significantly, most of these problems were not anticipated by the planners. These were the planners' responses to public criticism. The planning process has proceeded in a single-minded, defensive fashion.

Not only has the Service assumed that ecological problems could be overcome, it has also assumed that there were no real ecological limits on what they might do in the valley. The concept of any natural carrying capacity for the basin is absent from their planning. No studies have been done on the relationship of foot traffic to ground vegetation. No studies have been done on summer range needs of migratory deer herds, although the suggestion has been made that deer members should be reduced to minimize problems of conflict. This means "kill the deer" to solve the problem. No data have been gathered to suggest at what levels of human use and in response to which patterns, the natural flora and fauna begins to decline, and whether there are any sharp dropoffs in the decline. In a wildlife refuge and an area which qualifies for national park status, the Service is flying blind. Its only studies are on how to re-plant bulldozed ski runs.

What is worse, historically the Service has assumed that the bigger the project is, the better. What was conceived of as a project costing a couple of hundred thousand dollars in the 1940's, jumped to a $3-million dollar minimum project in February 1965, and to a $35 million project in late 1965. Now with accompanying private developments proposed by other entrepreneurs, the prospects are that $50 million to $75 million may be spent along the East Fork of the Koweah River. At last the Forest Service is balking at the proliferating plans of others, but clearly the whole concept is out of control. Through a series of quantum jumps in size, the whole character of the development has changed. It now threatens to be a monstrous blot upon the landscape.

Mineral King Basin.

The Service has placed no ceilings on size in the use permits, and the whole idea of ceilings is foreign to the Service. It thinks of minimum requirements only, with no standards on what can and cannot ultimately happen in the valley. Each new increment of development will be looked at on a case by case basis, with the Service bound to be caught facing a developer always claiming he needs the added development to make a profit. Once developers have their investment in an area, experience proves how nearly impossible it is to control their demands, particularly when no limits were set in the first place.

The only limit the Forest Service has promised is to restrict skiing numbers to what the lifts can handle. Subject to this vague standard, additions will be made as needed to the parking garage, and overnight accommodations will be added to respond to the market. As the late Walt Disney himself said, ". . . our efforts now and in the future will be dedicated to making Mineral King grow to meet the ever-increasing public need. I guess you might say that it won't ever be finished."

Clearly the public has ample grounds for raising objections to this project. However, the public has really never been provided with a forum to raise them. The Forest Service has been unwilling to even hold one public hearing on the proposal. It made up its mind and did not want to clutter up the record with objections. In fact, not one single agency with responsibilities in the matter has ever held a hearing on the question of whether the development should take place. The only public hearing the Forest Service can cite is one held in 1953 by the Tulare County Chamber of Commerce, which was promoting the project. Actually, this was an invitational meeting presided over by a local Congressman.

Great Western Divide. A proposed gondola would ascend to the left slope of Sawtooth Peak, upper right corner.

ACTION AGAINST THE DEVELOPMENT

The Sierra Club asked for hearings immediately after the prospectus was issued early in 1965. The club was turned down by the Forest Service, which held that it was engaged in a routine matter of issuing a special use permit. Thousands of these are issued for everything from a cabin permit to a right-of-way for a telephone line. However, these vary drastically in terms of impact and permanency. At the scale to which this project was now multiplied, it probably represents the largest and more permanent private installation ever contemplated on public land. The Service, however, treated it as if it were no different from any other. In terms of importance, the issue exceeds many that Congress deals with every day. The character of the land involved and the sums at stake make this a national issue, but the Service claimed this was exclusively a matter within its administrative prerogatives.

The California authorities, charged with building the access road, were equally reluctant to open the matter to public scrutiny. The road was placed in the state highway system in July of 1965 by means of a rider on another bill. No legislative hearings were held. By clandestine maneuver, the then President of the Senate was able to settle the matter. At meetings of the State Highway Commission, the question was never "should the road be built?" It was always "where should it be built, and when, and at what cost?"

At neither the state nor the federal level did the critics ever have a chance to state their case. The best they could do was to use a 1966 hearing on wilderness zoning within Sequoia National Park to talk about their fears with respect to what was being planned on adjoining Forest Service land. Alas, the critics were complaining to the wrong agency.

The closed nature of the planning process forced the critics to shift their tactics. After failing to get a hearing from the Regional Forester in the summer of 1965, they appealed to the Chief of the Forest Service in Washington and then to the Secretary of Agriculture. These appeals succeeded in delaying the award of a preliminary permit from September of 1965 to December of that year. Basically, however, the Secretary ended up ratifying what the Service proposed.

Beginning in December 1964, a three-year-long contest of wills developed between the Secretary of Agriculture and the Secretary of the Interior. The Interior Secretary was reluctant to grant the necessary right-of-way permit through Sequoia National Park for the new access road, because the Park Service's own studies showed it would actually harm the park. However, by 1967 heavy pressure stemming from the White House was brought upon the Interior Secretary to relent. In a complicated set of trade-offs engineered by the Bureau of the Budget to keep peace between the two contending departments, Interior was instructed to promise to grant the right-of-way when it was needed. The trade-offs involved land exchanges in connection with a Redwood National Park and a jurisdictional transfer involving land needed for the new North Cascades National Park. Secretary of Interior Stewart Udall, acting under instructions, then did agree to the access road, but he imposed conditions that it always be limited to no more than a two-lane road and that it be constructed in a way that would minimize damage to the park.

The context again in which these trade-offs were negotiated precluded public involvement. By their nature, these were secret proceedings which only happened to be exposed as an outgrowth of the heated controversy over establishing a Redwood National Park. Without public knowledge, the President made a decision to prevent the Secretary of the Interior from doing his duty, as he saw it, of protecting the parks that were, by law, placed in his care.

The secret and closed nature of the whole process by which decisions were made in this case left the critics with no recourse but the courts. In addition to all the policy grounds for questioning the project, there were grave legal questions about its lawfulness. When all other avenues of recourse had been exhausted and the Forest Service made it clear it was about to proceed with issuance of a final permit, the Sierra Club filed suit to stop the project. The lawsuit was filed in June of 1969 against both the Secretary of Agriculture and various Forest Service officers and also against the Secretary of the Interior. It sought both a finding that the project was illegal and preliminary and permanent injunctions against any steps being taken to build the project. In July of 1969, Federal

District Court in San Francisco granted the preliminary injunction, and thereafter the government appealed the decision to the Court of Appeals for the Ninth Circuit, which overruled the trial court. The Club has now appealed this ruling to the Supreme Court.

In its allegations against the Secretary of Agriculture, the lawsuit charges that the project will sprawl over more than the 80 acres which Congress has set as the limit for resorts developed under lease on national forest land. In point of fact, the resort will cover some 300 acres. The Service intends to put this excess acreage on so-called year-to-year leases, while putting only 80 acres on a thirty year permit as provided for by statute. The suit alleges this arrangement is "a clear and patent effort to circumvent the 80-acre limitation."

The suit also alleges that the proposal to put a giant resort in Mineral King conflicts with the designation which Congress bestowed on the area in 1926 as the Sequoia National Game Refuge. The statute permits only such uses of the refuge as are "consistent with the purposes for which said game refuge is established." How can a $35 million development in the heart of the refuge's best habitat possibly be considered a compatible use? The suit cites a state game authority who says "considerable habitat would be lost and wildlife would suffer from human encroachment," and a Forest Service wildlife authority who states: "The extent and nature of the proposed alteration of the basin is unacceptable to us – the damages extend beyond the effects on fish and wildlife, and these alone are critical."

The Forest Service's jurisdiction over the refuge is also challenged. The club's brief asserts that jurisdiction over wildlife refuges was transferred to the Secretary of the Interior by the 1939 reorganization act. The suit also charges that the Secretary of Agriculture and the Forest Service have acted arbitrarily and capriciously in failing to consider necessary factors in planning the development, such as its impact on ecology. It also charges them with failing to follow proper principles of administrative law, especially in refusing to hold public hearings on the proposal.

Because the Secretary of the Interior was on the verge of issuing a right-of-way permit for the access road through Sequoia National Park, he was also joined as a party. The suit points out that the organic act of the National Park Service and the act establishing Sequoia National Park make the Secretary of the Interior responsible for preserving the natural objects, wonders, and timber in the park from injury. One consultant on the impact of the park road estimated that as many as 45 giant sequoias within the park could possibly be jeopardized by the road. If the Secretary were to approve such a road, which could injure the natural objects of the park and does not serve its purposes, the suit alleges he would be violating his duty under these various acts of Congress.

The suit also claims that construction of the road violates administrative procedures of the Department of the Interior. It asserts the road is not being constructed in conformance with established standards and policies for park roads, nor are requirements for hearings on routing and design being followed. The suit asserts finally that Congressional approval is needed before an electrical power transmission line, needed by the project, can be routed through the park.

Mineral King, present village in trees (foreground).

CONCLUSION

The course of events that gave birth to the controversy over Mineral King can be instructive for all public resource agencies. The proposal's history shows how an agency can be trapped into assumptions that may not stand the test of time and changing needs; how a plan cannot be projected into larger and larger formats; how difficult it is to get ecological thinking injected into planning once a developmental goal is assumed; and how closing the public out of the planning process is only likely to lead to litigation and further delay.

Mineral King stands as an object lesson of how not to plan a public resource. While the answers about what can ultimately be done in Mineral King must await further studies, it is quite clear that not enough study was done to justify the project that has been proposed. As it is now proposed, Mineral King is a symbol of what cannot be permitted to overtake the Sierra, or our other fragile natural regions.

In one sense, the Mineral King controversy appears to be a forerunner of things to come. But in another sense, it is an example of an old kind of thinking that has outlived its usefulness. Controversies such as at Mineral King will provide a contest between ecological thinking and the pressures of the entrepreneurial spirit.

One can hope that public agencies will not continue to have such a hard time deciding which side they are on.

REFERENCES

Anderson, Dewey. "Mineral King – A Fresh Look." *National Parks & Conservation Magazine.* May, 1970. pp. 8-10.

Hon. George E. Brown, Jr. "The Mineral King Controversy." *Congressional Record.* December 8, 1969. pp. E10430-38.

Hon. Phillip Burton. "What is Mineral King?" *Congressional Record.* July 8, 1969. pp. E5673-74.

Cannon, Julie. "The Sierra Club Goes to Court for Mineral King." *Sierra Club Bulletin.* June, 1969. pp. 6-7.

Forest Service, U.S. Department of Agriculture, California Region. February, 1965. *Prospectus for a proposed Recreational Development at Mineral King in the Sequoia National Forest.*

Hano, Arnold. "Protectionists vs. recreationists – The Battle of Mineral King." *The New York Times Magazine.* August 17, 1969. pp. 25-66.

Hope, Jack. "The King Besieged." *Natural History Magazine.* November, 1968.

McCloskey, Michael. "Why the Sierra Club Opposes Development of Mineral King." *Sierra Club Bulletin.* November, 1967. pp. 7-10.

Photographs by Bruce Barnbaum, Allen Malmquist, John Rettenmayer.

Why the Sierra Club was founded.
John Muir founded the Sierra Club to enable more people to explore, enjoy and cherish the wildlands that are their heritage. He felt that man should come as a visitor to these places (the mountains, river canyons, coasts, deserts and swamps) to learn, not to leave his mark.

From experience, we know that these places are only as safe as people, knowing about them, want them to be.

Time has proven that the people the Club takes to the mountains, rivers and other wild places, become their most determined defenders.

Through them, the Club helped bring the National Park Service and the Forest Service into existence; played a leading role in the establishment of such national parks as Kings Canyon, Olympic, Redwoods, and the North Cascades; was instrumental in creation of the Wilderness Preservation System and the Wild and Scenic Rivers System; and led the defense of Yosemite and Grand Canyon national parks and Dinosaur National Monument against dams.

The challenges ahead.
While much has been done to ensure that wildlands will not vanish from our lives, too little has actually been saved. Man's rising tide threatens to engulf the little that still remains unprotected, and the quality of life everywhere declines.

Protected areas must now be expanded: we need more national parks, wilderness areas, wild and scenic rivers, natural areas, and wildlife refuges; endangered species must be protected, estuaries safeguarded, scenic shorelines conserved, and open space reserved around our cities.

The environment of the cities now also needs to be made fit for man: we must be more effective in combatting air and water pollution and the prevalence of chemical contaminants, noise, congestion and blight. Most of all, we must control the growth of human numbers so that a balance may be struck between man's works and the remaining natural world. Technology must be challenged to do a better job in managing the part of the planet it has already claimed.

How to become part of it.
All who feel the need to know more of nature, and know that this need is basic to man, are invited to join. Anyone who is at least twelve, anywhere, can join by merely applying. We will sponsor you automatically.

You can be as active as you want – we put dozens of outings into the field every weekend, and our conservation campaigns need all the help they can get. We will value your membership alone, however, because it shows you care and allows us to carry our message to more people.

The Sierra Club is expanding in every way: in size, extent and range. It now has 33 chapters in 50 states, with offices and staff in San Francisco, New York, Washington D.C., Tucson, Seattle, Los Angeles and Alaska.

Wherever nature needs defense, the Sierra Club wants to be on the scene. We welcome all who want to be part of this defense. With new members strengthening its resources the Club can better act on behalf of all that is defenseless, irreplaceable and voiceless in our natural heritage.

Admission fee and dues:
Admission fee, $5. per person; or per family, when members of an immediate family apply at the same time. Admission fee waived for full-time students; please supply name and location of school.

	Dues	Admission	Total
Regular	$12.00	$5.00	$17.00
Spouse	6.00	5.00	11.00
Junior (12 to 21)	5.00	5.00	10.00
Supporting	25.00	5.00	30.00
Contributing	50.00	5.00	55.00

Dues are for one year's membership and renewal notices will be sent annually. Dues include subscription to Sierra Club Bulletin.

Sierra Club, 1050 Mills Tower, San Francisco 94104 Date

I have informed myself about the purposes of the Sierra Club and wish to support them. I hereby apply for membership and enclose $............ as admission fee and dues, which will be refunded if I am not elected.

Print Name Mr. Mrs. Miss ....

Print Mailing Address ....

.... Zip Code ....

Tel. No. .... If under 21, give date of birth ....

Signature of Applicant ....

I sponsor the applicant and believe him interested in advancing the club's purposes. (Sponsor must be over 21 and a member for a year. If you know no members, write the Club's President.)

Print name and city ....

Signature of sponsor .... Date ....

Sierra Club, 1050 Mills Tower, San Francisco, Calif. 94104 *January 1971*

A reading has been omitted for reproduction purposes. It is:

Walt Disney Proudctions Disneyws. "Mineral King Offers Recreational Potentials Equal to any in the United States". The addrpss of the publication is 500 South Buena Vista Street, Burbank, California

ENVIRONMENTAL ISSUES

UNIT C

Adjudication as a Method of Conflict Resolution

ENVIRONMENTAL ISSUES

UNIT C

Adjudication as a Method of Conflict Resolution

LESSON 1: THE DECISION

This lesson consists of a simulation game that you will play in class. The teacher will assign various roles and help you to understand how you should play the role you receive. However, as with all simulation games you must play the game and there are no right and wrong ways to play any specific role. Some class members will be successful in the game and have their desires for the outcome of the game fulfilled. Others will be unsuccessful and will not get what they want. Remember, however, that there are no real winners and losers in the game. The purpose of the game is to have a specific type of experience from which you can discuss certain events in the real world and the experience of not getting what you want is just as real as the experience of getting exactly what you want. The only way, therefore, that you can fail in the game is to refuse to play. Only by refusing to play will you be unable to have any real experiences.

Read the following Scenario and study the map. As soon as the teacher assigns you a role, read the instructions for the game and with your group begin to develop your plan of action.

Scenario #1

Dog Creek Canyon was first seen by white men in the 1850's. In the continuing search for gold and silver more and more areas were being explored and this natural river basin in the High Sierras was one of the many which at first blush offered the hope of rich claims and quick fortunes. The high hopes were never realized. The ore was rich, but not rich enough to make mining economically profitable.

By the 1890's the valley had been fully explored and abandoned. All that remained were some old miners' cabins and two dozen mining claims which covered about 25 acres of the several thousand acres of the valley.

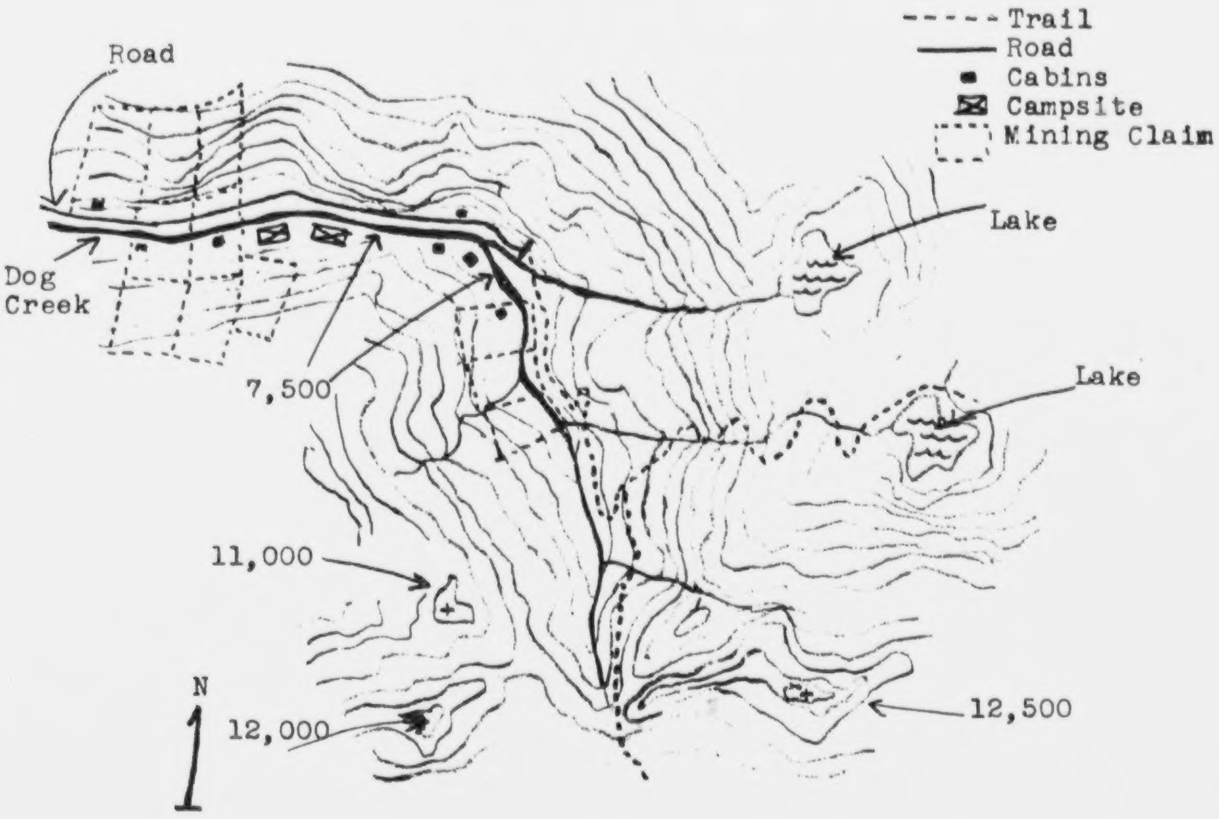
Little changed in the valley from 1900 to 1960. The old mining road to the valley was maintained; portions of it were actually partly paved by the National Forest Service in order to facilitate logging operations in the surrounding area, all of which was now owned by the Federal Government and was part of the Old Trees National Forest. Nearby lands had been placed under the greater protection of the National Park Service by the creation of Old Trees National Park, but Dog Creek Canyon was excluded from the park because of the old mining claims and the expense of buying them back in order to give complete control of the area to the National Park Service.

In 1960 the National Forest Service, under pressure to develop new recreational uses for National Forest lands for a growing population, requested plans to be submitted for the development of Dog Creek Canyon as a year-round recreation area. The major pressure came from the fact that within 150 miles of Dog Creek is a major urban center with 12 million people; however, the nearest major winter recreation areas are 250 miles further north of Dog Creek Canyon.

The valley of the canyon, at an elevation of 7,500 feet, is surrounded by peaks rising to 12,000 feet. Five creeks feed into the valley, whose floor is graced with the crystal waters of Dog Creek, which eventually come out of the valley over a series of spectacular waterfalls into the Red Dog River.

High Life Productions, a world-wide entertainment corporation, has developed a year-round recreation plan for the valley. Wilderness, Inc., a non-profit organization of conservationists and outdoorsmen, has submitted a plan which calls for essentially no changes in the valley, but instead the preservation of the valley as a wilderness area. The only real change requested in the Wilderness, Inc.'s plan is that the government purchase the old mining claims in order to secure forever the valley in its natural state.

Dog Creek Canyon



Instructions:

The game consists of two parts. During the first period you are to prepare the plan your group wants to present to the National Forest Service Board. Reread the Scenario and develop your plan according to the general guidelines included in the story as well as the specific questions and ideas listed below. In the second part of the game you will present your plans and evaluate the plans presented by the other groups. All plans should be as detailed as possible with appropriate graphs, models and exhibits as well as experts to testify as to any important aspects of the plan.

The following questions and ideas should aid you in developing your plan once you have been assigned a role.

National Forest Service Board:

1. Select a chairman to run the board meeting.
2. Develop a list of qualifications or elements that the board feels should be included in any plan that is adopted.
3. Make an agenda for the public meeting.
4. The list of qualifications and the agenda should be published at least 20 minutes before the public meeting although they are subject to revision by the board at any time.

Mining Claim Owners:

1. Where do you stand on what the board seeks to do?
2. What do you want to do about the board's decisions and plans for Dog Creek Canyon?
3. What must be included in any plan for development of the valley to protect your interests?

High Life Productions:

1. Develop a detailed plan which will provide a recreation development for the urban center. The development should be able to handle 10,000 people a day on a year-round schedule. THINK BIG!!!
2. Develop a model or diagram for the development.

Wilderness, Inc.:

1. Plan carefully the position to take at the meeting by identifying your objectives and what you want to happen in the canyon.
2. You may also want to develop a plan which may or may not meet the requirements published by the board.

General Public As Individuals or Groups:

1. This group can organize itself in any way it wants. They can take a personal position on the plans developed by the various groups or they can attempt to organize some type of pressure group which wants to be involved in the development of Dog Creek Canyon. The goal is to simulate what the general public might do in a similar situation.

At the public meeting, try to persuade the board to accept the plan that your group has developed and, within the rules established by the board, evaluate the plans and ideas presented by other groups and individuals.

After the public hearing the board will make a decision and the teacher will lead a general discussion of what happened in the game and how this game reflects the actions of real governmental agencies.

LESSON 2: THE TRIAL

Preliminary Reading #1: Court Review of Administrative Actions

There are generally two ways for the court to intervene in administrative actions. It may order the agency to act or it may order the agency to stop acting. Both of these orders are a type of injunction.

In general the courts are reluctant to interfere with the operations and rulings of governmental departments. As an example despite all the hue and cry over the U.S. Department of State's refusal to validate U.S. passports for travel in certain countries, the courts have refused to order the department to do so. The courts will not intervene unless there is convincing evidence that a governmental agency is acting arbitrarily or unreasonably. In decision after decision in cases involving administrative action or inaction, the courts express the opinion that they don't know the reasons for what the agency is doing or not doing and therefore decline to force an administrator's hand.

Some governmental departments and agencies, particularly the regulatory agencies, do make what amount to laws or issue instructions that have the effect of laws. The Food and Drug Administration can require drug manufacturers to put labels on their products warning the public against their misuse or even their use. The Department of Agriculture tightly controls how much of what farm products may be sold. State highway departments have wide authority for the control of speed on the highways and the licensing of operators of motor vehicles of all kinds. State public utility commissions set the rates that may be charged by telephone companies and by power and light companies.

Because all these agencies and departments are run by human beings, occasions are bound to arise when their orders, rules or instructions are unlawful, unjustified or unclear. They can be tested in the courts. Regulations that seem carefully designed to achieve a purpose for which the agency was created will not lightly be reversed. To protest such a regulation effectively you must be able to establish that it is vague or discriminatory, or that it doesn't achieve a public purpose, or that it is beyond the powers of the agency or that the agency in trying to fine or otherwise penalize you, didn't give you adequate notice of your wrongdoing or an opportunity to have your alleged wrongdoing judicially reviewed. The courts are too busy to interfere with the day-to-day operations of government departments and will not do so unless their attention is caught by charges of improper behavior resulting in the threatened loss of your recognized legal rights.[1]

Review Questions:

1. What are the two ways a court may change administrative actions?
2. Why are courts reluctant to interfere with administrative action?
3. What types of rules do administrative agencies develop?
4. What must a person prove in order to get a court to force an administrative agency to change its actions?

Discussion Questions:

1. Should courts tell administrative agencies what rules the agency should make?
2. Which of the following actions would a court require an administrative agency to change?
   a. A clerk's refusal to issue a marriage license.
   b. The County Board of Supervisors refusing to install a stop light where they had promised to install one during the prior election campaign.
   c. The City Council using money from a park bond to develop a city dump instead of a park.

---

[1] You and the Law. (Pleasantville, N.Y., 1971), pp. 32-33.

Preliminary Reading #2: Condemnation

All governments---federal, state and local---have the power to take your private property for a public use. This can include your house, your farm, your summer place or undeveloped acreage you own. This power of condemnation, or eminent domain, is a harsh one and often seems unfair, but courts and legislatures recognize it on the basis that the welfare of society as a whole must come before the welfare of any individual.

There are, however, limitations on this power. The government may take your property only for a use that benefits the public as a whole; it may not take more of your property than is necessary for the use intended; and it must compensate you for the fair market value of the property taken. The courts have extended the public use doctrine to private persons or corporations for such purposes as building railroads or power plants---again on the theory that such enterprises work for the benefit of all the people.

At a court hearing you may dispute the authority of the governmental agency that has started the proceedings, or try to persuade the court that your property is not being taken for a valid public use or isn't needed for the project planned.[2]

Review Questions:

1. What is taken by eminent domain?
2. What levels of government can take private land by eminent domain?
3. May a private individual or company be authorized to take other private land by eminent domain?
4. What are the limitations on eminent domain?

Discussion Questions:

1. Should or should not the government representing the public generally have power of eminent domain? Why?
2. Which of the following is a valid taking by eminent domain?
   a. Forcing A to sell his land because it will be flooded by a new dam.
   b. Forcing B to sell his house because it is in the path of a new freeway.
   c. Forcing C to sell his farm because the city wants to create a new industrial park.
   d. Forcing D to sell his house because the city wants to create a park which will include D's land.

Preliminary Reading #3: Nuisance

Just as you have a right to freedom from interference with your personal rights, so you have a right to freedom from interference with your property rights. You have a right to unrestricted enjoyment and use of your real and personal property. Your right to the "quiet enjoyment" of your property protects you not only from trespass on it by uninvited persons but from certain things that nearby landowners or tenants may do on their own property that cause you unduc annoyance, inconvenience, discomfort or injury. These are called nuisances. A large number of nuisance cases fill the law books every year, and the number of nuisance cases is likely to grow as the world becomes more populated and people live increasingly closer to one another.

---

[2] *Ibid.*, p. 34.

There are two kinds of nuisance, public and private. The difference between them is the same one that is found throughout the law of torts: a public nuisance is one that interferes with the interest of the entire community, while a private nuisance is one affecting your interest only. Typical public nuisances are: someone in your neighborhood has a pond that he doesn't clean and from which bad smells often come; a tenant plays his stereo set or radio every night so loud that you and your neighbors in adjoining apartments can't sleep; someone shoots off fireworks in the streets; a man operates an illegal still in the cellar of his house. All these and similar uses of your neighbor's property cause distress to the whole community, not just to you.

A private nuisance, on the other hand, is conduct by your neighbor that interferes only with your freedom to enjoy the use of your property. The classic example is the "spite fence" erected by your neighbor, on his land, to keep our sunlight and air from your property and generally to make you feel confined and hemmed in when there is no reason for it. A neighbor who failed to maintain his septic tank, with the result that his sewage flowed onto your land, would be liable for a private nuisance against you. He would probably also be guilty of violating the local sanitation laws, but that violation would be an offense. So by the same act he would be accountable for both a tort and an offense.

Your remedies are what you might expect. For both public and private nuisances you and your neighbors should yourselves seek an injunction---a court order to prevent someone from doing something---ordering the offensive conduct to be stopped. Or you may sue for damages for the harm caused by the nuisance. Sometimes you may seek both. Frequently you will find that local ordinances prohibit the nuisance, so that it is worthwhile to consult the local public prosecutor and ask him to proceed in the name of the state against the property owner or tenant who is maintaining the nuisance.

It is likely that you will be hearing much more about public nuisances as the public becomes more concerned about such problems as water and air pollution. The law frequently follows public sentiment, even though courts are reluctant to put a stop to public nuisances that arise from commercial and industrial uses of property. Anyone who lives in the neighborhood of a chemical plant or paper mill knows only too well the smells and the water pollution they cause. The courts must balance the public's interest in industrial production against the public's interest in the enjoyment of clean air and water. Where courts lag, or tend to uphold industrial interests against those of the people as a whole, the legislature steps in and enacts statutes that force industry to devise and install antipollutants. Much more such legislation is likely to be enacted in years to come.[3]

Review Questions:

1. What is a nuisance?
2. What is a private nuisance?
3. What is a public nuisance?
4. What can a private citizen do about a private nuisance?

Discussion Questions:

1. To what degree should a person be free to use and enjoy his land?
2. Which of the following is a nuisance?
   a. Raising horses on a small city lot.
   b. Raising pigs on two acres in the country.
   c. Building an amusement park on an acre of land in the middle of a new housing development.
   d. Dumping raw sewage in the river.
   e. Flying jet aircraft at a low level over a house as they land at a public airport.

Read the following Scenario and rules for the game trial and begin to prepare your case as soon as the teacher assigns you a role.

Scenario #2

After a public meeting at which many sides presented their views, the National Forest Service Board voted 3 to 2 to grant a 30 year lease to the Dog Creek Canyon Valley to High Life Productions for a yearly fee of $100,000.00. High Life Productions is to develop the valley according to the plan it presented. Any deviations, modifications or expansions of this plan had to be approved by the full National Forest Service Board.

High Life Productions, obviously pleased with the Board's decision, announced it would begin some development immediately and purchased sixteen of the old mining claims. The major development would have to wait, however, until the highway into the valley was improved (one of the elements in High Life Productions' plan was the requirement of a new all-weather highway into the valley replacing the old mining road).

---

[3] *Ibid.*, pp. 92-93.

Of the eight other mining claims, three blocked the entrance to the valley and four controlled the four natural springs of the valley. The owners refused to sell to High Life Productions because they did not want the valley developed. High Life Productions requested and received permission to condemn the land in order to build the road. High Life now seeks to have the court condemn the mining claims.

The mining claim owners, unhappy with the decision of the board, seek an injunction to stop the project declaring that it will create a private nuisance and that the condemnation is illegal because it is for private and not public purpose.

The road into the valley will also run through a portion of Old Trees National Park, which was not to be commercially developed, but the National Park Service, wanting to aid the National Forest Service, gave its permission to cut and level a four-lane road through this area.

Wilderness, Inc., unhappy with the whole plan for development and outraged with this "rape" of Old Trees National Park also seeks an injunction to stop the road construction.

All three actions are consolidated into one case in order to reach a final determination of the controversy.

Rules for the game, TRIAL:

I. The Playing of the Game

A. Pretrial Period:

1. Each Plaintiff prepares a complaint following the included complaint form.
2. Each Defendant prepares an answer using the included answer form.
3. Each Plaintiff and Defendant prepares the case for presentation at the trial.

B. Trial Period:

1. Selection of a jury according to the teacher's instructions.
2. Presentation of the Case
    - a. Opening statement by Plaintiffs telling what they will prove.
    - b. Opening statement by Defendants telling what they will prove.
    - c. Presentation of Plaintiff's case. Witnesses and documents. Defendants can cross-examine.
    - d. Presentation of Defendant's case. Witnesses and documents. Plaintiff and other defendants can cross-examine.
    - e. Closing statements by Defendants summarizing their case and what they have proved.
    - f. Closing statements by Plaintiffs summarizing their case and what they have proved.
3. Jury instructions and verdict.

II. Debrief the game by discussing the advantages and disadvantages of adjudication as a technique for the resolution of conflict.

Chart of Suits Involved

Plaintiffs		Defendants	Action
Wilderness, Inc.	vs.	National Park Service National Forest Service High Life Productions	Injunction to stop road construction and development.
Mining Claim Owners	vs.	National Forest Service High Life Productions	Injunction to stop road construction and development.
High Life Productions	vs.	Mining Claim Owners	Condemnation of land. 1) justification 2) value

COMPLAINT FORM

______________________ Plaintiff	)	Case No. ____________
vs.	)	Complaint for ______ _________________
______________________ Defendant	)	

Plaintiff alleges:

In separate numbered paragraphs set out the following:

1. Identity of Plaintiff.
2. Identity of each Defendant.
3. Facts creating the problem and justifying relief. (List each fact separately in numbered paragraphs and state sufficient facts to justify relief.)

Wherefore plaintiff prays judgment as follows:

1. State specifically what plaintiff wants as relief.

____
Signed by Plaintiff

Note: The complaint should look like this form; however, the information included in the boxes will differ for each complaint.

ANSWER FORM

______________________ Plaintiff	)	Case No. ____________
	)	Answer
vs.	)	
______________________ Defendant	)	

Defendant in answer to the complaint on file admits and denies as follows:

1. Defendant admits all of the allegations contained in paragraphs ______________________.
2. Defendant denies all of the allegations contained in paragraphs ______________________.
3. Defendant further alleges the following facts. (List by numbered paragraphs.) These facts show why the Plaintiff should not get what he is asking the court to do.

Wherefore Defendant prays judgment as follows:

1. Plaintiff be denied the relief he seeks.

____
Signed by Defendant

Note: The answer should look like this form; however, the information included in the boxes will differ for each complaint.

ENVIRONMENTAL ISSUES

UNIT D
The Creation of International Law

LESSON 1: STUDENT REPORTS

In the past the oceans of the world have been considered free to anyone who chose to use them. What little control that was exercised was done on a basis of pure force with only the strong sea powers having any say in what would be done. Today more and more nations are beginning to look to the sea for resources and transportation. The result is a growing level of conflict over the oceans.

The developing International Law for the seas is an attempt to form a system of rules and regulations to which all nations can agree and which will regulate inter-nation relationships as various nations come into conflict over the use of the oceans.

Generally the points of conflict center around the following problems:

1. FREEDOM OF MOVEMENT AND NAVIGATION
    a. Types
        1) Warships
        2) Merchant ships
        3) Recreation
    b. Areas of problems
        1) Deep oceans
        2) Straits
        3. Coastal areas
2. DEVELOPMENT OF RESOURCES
    a. Living, e.g. kelp and fish
    b. Mineral, e.g. oil, iron, etc.
3. CONTROL OF WEATHER

4. CONTROL OF POLLUTION AND WASTE

   a. Land run-offs
   b. Sea usage, i.e. oil recovery and spills

5. NATIONAL HOPES AND FEARS

   a. Fear of outside domination, i.e. vestige of colonialism, e.g. U.S. and U.S.S.R. ability to spy, bring pressure, etc.
   b. Prestige of establishing a place of honor for one's nation, e.g. foreign policy initiative of Ecuador.

Procedure:

1. Select a country from the following list:

Western Europe:	England France Germany Holland Italy	Sweden Norway Finland Switzerland
Eastern Europe:	U.S.S.R. Poland Yugoslavia	Rumania Czechoslovakia
Africa:	Rhodesia Nigeria	Union of South Africa Congo
Arab-Middle East:	Egypt Iran	Lebanon Israel
Asia:	China Australia India	Japan Malasia Indonesia
North America:	United States Mexico	Canada
South America and Central America:	Cuba Chile Ecuador Peru	Brazil Colombia Panama Argentina

2. Prepare a position paper for your country by doing the following:

   a. Review the past attempts to deal with and control the use of the seas.
      1) Various treaties you can discover.
      2) The 1958 and 1960 Law of the Oceans conferences in the U.N.
   b. Study the current position of your country on all of the general issues.

c. Write a position paper on what you feel your country would insist upon in any international law of the oceans. Remember both the national and international goals of your country, any pressure groups active in your country and how your country would ratify any treaty that is developed.

LESSON 2: GEOGRAPHIC REGIONAL CONFERENCES

Generally those countries that are geographically connected will have some similar interests in the bordering oceans. For example, they may be competitive for fishing grounds, or they may both suffer if the ocean in their area becomes greatly polluted by an oil spill along the coast.

The goal of this fourth unit is to establish a general international law for the oceans, but since so many countries are involved, preliminary conferences are going to be held to develop proposed draft treaties to submit as a region to the upcoming general World Oceans Conference.

The geographic meeting groups are the following:

1. Western - Non-Communist Europe
2. Eastern - Communist Europe
3. Africa - Excluding the Middle East
4. The Middle East
5. Asia
6. North America
7. South America

Each regional group should develop a proposed draft treaty which will cover all of the areas of possible conflict over the oceans.

This treaty proposal should be copied onto a ditto and a copy given to every nation represented in the game.

Included in the next few pages are examples of treaty proposals developed by other classes when they participated in this game.

INTERNATIONAL LAW OF THE OCEAN TREATY

NAVIGATION

Each country shall have a protective twenty mile limit against military vessels.

Both commercial and military vessels shall have free use of international straits. Military vessels shall have free transit through islands with the authorization of the country.

Commercial vessels shall have complete freedom of navigation.

Everyone shall have freedom of navigation for recreational purposes with the consent of the country.

RESOURCES

LIVING

Each country shall have complete control of the living resources within a twenty mile and/or one thousand foot depth limit of their respective shores.

Other countries may fish within this limit with the authorization of that country.

Living resources outside this limit are under the control of the International Committee. They have the power to protect these waters by granting lisences, limiting the tons of resources per country that can be caught, outlaw dredging, and saving endangered species by limiting or outlawing the catch of that species.

NON-LIVING

Each country shall have complete control over the non-living resources within the first twenty miles of their shore and can utilize the resources out as far as the seventy mile limit with the authorization of the Committee.

POLLUTION CONTROL

All pollution will be investigated by the Committee and ruled accidental or intentional.

Accidental polluters will have to pay a small fine and clean up the mess to a standard set by the Committee.

When the pollution is intentional the offenders will have to pay a fine, clean up the mess, and will lose access to the water for a short period of time.

INTERNATIONAL COMMITTEE

The Committee will consist of one delegate per country, preferably a scientist knowledgable in the field of oceanography or pollution control, that would have equal power.

The Committee shall have the power to establish an International Navy to test for pollution and enforce the laws governing the ocean as set up by this treaty under the headings of Navigation, Resources, and Pollution Control.

The Committee may use the money collected from the pollution fines as it sees fit, but within the areas of development of resources and pollution control.

Under the heading of Pollution Control the Committee would have the power to set the clean up standards, the fines, and the periods of time that the offender would lose access to the water.

TREATY OF COMMUNIST EUROPEAN COUNTRIES

We, the communist countries of Europe, demand freedom to move warships, surface and subsurface, commercial ships,and fishing vessels through all the oceans, seas, straights and canals. Freedom to fish all currently known fishing grounds. Freedom to exploit all living and non-living products, within reason, of the waters of the continental shelf, continental slope, as well as deep seabeds in perpinquity with the European land mass.

In terms of commercial merchant shipping, we demand access to all ports and harbors of national entities.

The great Soviet naval fleet will bar passage to all hostile vessels which she deems necessary for the security of the great Soviet land mass.

Yugoslavia

Poland

Russia

Czechoslavakia

ASIA MASTER PLAN

Each country possessing a coast shall have the ability to impose their rule over the waters within a thirty mile limit. The remaining waters will be governed by an oceanic council, in which each country that has a coast or interest in the waters shall have one member.

Point 1. Within the thirty mile limit separate countries may:

A. Restrict the movement of Naval, commercial and recreation vessels.
B. Require vessels which bear arms to have government approval to enter territorial waters. (Unathorized passage may be considered an act of aggression.)
C. Require commercial vessels to file reports as to cargo, tonnage, route and destination.
D. Require pleasure vessels to file reports as to route, destination and cargo (if any).
E. File suit in the oceanic council if any country or vessel should purposely or inadvertantly misuse their territorial waters. An offender, after correcting their action, may be required to issue a formal apology.
F. Regulate any action which takes place on or under their territorial waters (such as fishing, drilling, etc.).

Point 2. The Oceanic Council shall:

A. Be composed of one representative from each country concerned and each representative may not have a financial interest in the water.
B. Deal with the problems of the waters outside the thirty mile limit.
C. Have the final word in matters dealing with the oceans.

Point 3. Permanent Regulations

A. In order to prevent the overkill of a species, tonnage of fish will be established proportionally to the population of the country or countries concerned.
B. Surplus tonnage of fish may be sold on an open market wherein the prices will be regulated.
C. Dumping of refuse of any form shall be considered a criminal offense (outside of the thirty mile limit).
D. Transportation of illicit contraband shall be considered a criminal act.
E. Genocide is prohibited.
F. Atomic testing in or upon the waters is strictly forbidden.

MIDDLE EAST TREATY PROPOSAL

1.) Freedom of Movement and Navigation
    a) All seaports kept open and free for trade.
    b) Open for use by tourists for recreation.
       eg. boating, sailing, skiing,fishing etc.
    c) A 12 mile mineral off-shore right.
    d) All straits to be kept open and free for trade and transportation.

2.) Development of Resources
    a) Living (eg. fish, caviar etc.) resources can be planted and harvested.
    b) Mineral rights given to smaller Middle Eastern countries with off-shore drilling permitted.

3.) Control of Weather
    a) Only to be used with a beneficial purpose, eg. detecting storms, seeding clouds in times of draught.

4.) Control of Pollution and Waste
    a) Regulations and rules should be set and enforced.
    b) Penalties eg. money, to cover ignorance or lack of proper disposal, will be enforced.
    c) Money should be appropriated by U.N. to cover costs to clean up oil spills and other ecological disasters.
    d) Larger countries should contribute to costs of pollution and disposal plants to poor and or smaller countries.

5.) National Hopes and Fears
    a) Outside domination from Russia and United States will not be tolerated.
    b) We want to be respected by other nations and our honor and prestige recognized.
    c) No country or power shall have complete control of the oceans.

LESSON 3: WORLD OCEAN CONFERENCE

Each student now should have a copy of all the treaty proposals developed by the countries and regions represented by the class members.

During this level of the game, your task is to develop an international law for the oceans.

The conference should elect a leader or moderator and every country has only one vote. All other rules you can create yourselves. You should decide just exactly how you will decide upon a treaty, as well as what is going to go into the treaty.

Remember that you represent a specific country, and you must look out for your country's interests. Also remember that if no treaty is decided upon, the world will stay as it is---namely, the oceans will be controlled by those nations that are powerful enough to enforce what they want done.

Assignment: Oceans

1. For the topic which you are assigned you should:

    a. State the issue around which the debate centers; simply, "What is the issue?"
    b. List those who are party to the issue. (What countries are involved?)
    c. State the objectives and goals of the countries involved.
    d. Propose a way in which the problem(s) between the countries involved in the dispute could be resolved.
    e. Cite what you would feel would be appropriate fines and/or penalties to be used against countries which would not agree to be part of any negotiations involving the oceans.

2. You should work in your group to answer all of the questions above. You should also:

    a. Propose a workable solution to the development of ocean resources.
    b. Propose a workable division of ocean resources.

3. Topics. Your group of students should not deviate from its assigned topics. It is suggested that you use the Readers' Guide to Periodic Literature to answer the above questions.

Topics

Seabeds
Offshore Drilling
Ocean Dumping
Sovereignity of the Sea
Offshore Limits
Straits and Oceans
Continental Shelf
The Exploitation of the Seabed
"Freedom of the Seas"
Fishing Rights (Chile, Ecuador, Peru)
"Three Mile" Limit